



ELECTRIC KEYS

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1. Disclaimer

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Document authored by Nicolas Sidi, Native Instruments

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2. Welcome to Electric Keys

Electric Keys celebrates the world of electric keyboards, putting some of the most sought-after models at your fingertips as perfectly captured, true-to-life piano emulations. Draw inspiration from classic builds or have fun making them your own with an authentic selection of cabinets, tone controls, and creative effects.

Electric Keys – Ivory channels the warm, soulful voice of a vintage tube-driven reed piano that is rich, organic, and alive with natural grit. The more you lean into it, the more it opens up, revealing a beautifully responsive dynamic range perfect for smoky jazz, tender ballads, or raw blues.

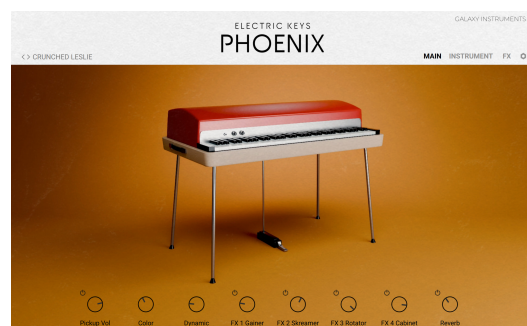
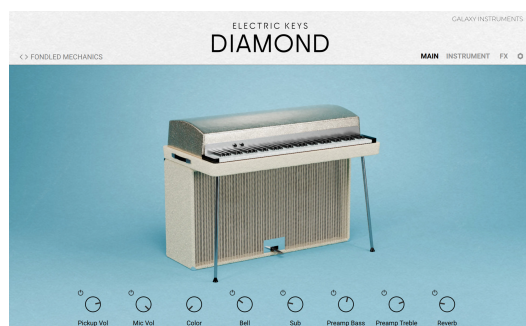
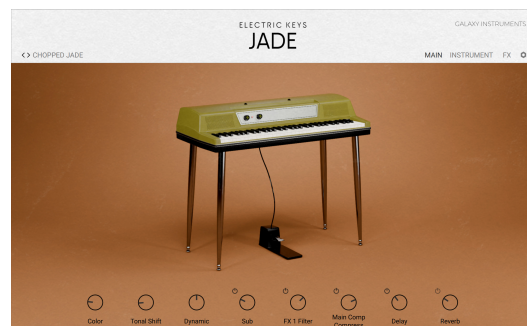
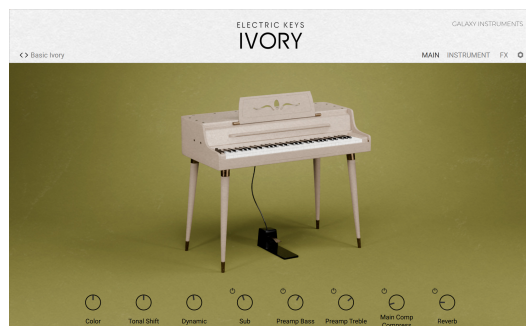
Electric Keys – Jade captures the bright, punchy sound of a classic solid-state reed piano: sharp, dynamic, and full of character. The sound that lit up countless recordings, it's perfect for funky rhythms, cutting leads, and rich chords that need to shine.

Electric Keys – Phoenix captures the sound of a true icon – one of the world's most influential and recognized electric pianos. With a vast spectrum of sounds, from melodious, bell-like textures to rich, warming harmonies and even distorted, barking tones, Phoenix perfectly delivers diverse retro timbres.

Electric Keys – Diamond immortalizes a very rare, original electric piano from 1967. Beyond its sparkling exterior lie real felt piano hammers, producing a unique and mellow tone similar to a vibraphone. This standout gem is ideal for those seeking a more uncommon sound.

This document shows you how to [install and setup](#) Electric Keys and describes all features in detail, starting with the [overview](#).

We hope you enjoy Electric Keys!



The images in this document show Electric Keys – Diamond, however the provided information apply to all Electric Keys instruments: Diamond, Phoenix, Ivory, and Jade, except where noted.

Document conventions

In this document the following formatting is used to highlight useful information:

<i>Italics</i>	Indicates paths to locations on your hard disk or other storage devices.
Bold	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on the computer keyboard.
►	Denotes a single step instruction.
→	Denotes the expected result when following instructions.

The following three icons denote special types of information:



The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.



The **information** icon highlights essential information in a given context.



The **warning** icon alerts you of potential risks and serious issues.

3. Installation and setup

Before making music with Electric Keys, you must install and set up the necessary software. Follow these instructions to get started.

Installing Electric Keys using Native Access

Native Access is your go-to app for downloading, activating, and updating all your NI music creation tools including Electric Keys. If you are new to Native Instruments, you will first have to create your Native ID user account. To learn more about Native Access, visit our [support page](#).

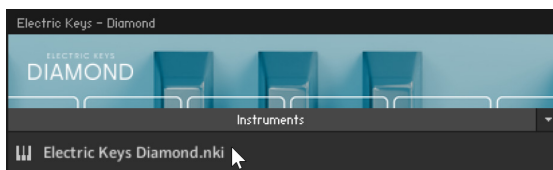
1. Download and install Native Access [here](#).
 2. Open the Native Access application.
 3. Create a Native ID, if you do not have one already.
 4. Login to Native Access using your Native ID.
 5. Click **Library** on the left side of Native Access.
 6. Click **Available** at the top of Native Access.
 7. Click the **Kontakt** category to only show products related to Kontakt.
 8. Click **Install** for the following products:
 - Electric Keys
 - Kontakt or Kontakt Player
- The software is installed automatically.

i If the software is already installed, click the **Updates** tab and install the available updates before proceeding.

Loading Electric Keys in Kontakt

Once installed, you can start using Electric Keys in Kontakt. Electric Keys is not an independent plug-in, so you first need to open an instance of Kontakt or Kontakt Player:

1. Open Kontakt as a plug-in in your host software (DAW) or as a stand-alone application.
2. Locate Electric Keys in the Browser, on the left side of the user interface.
3. Click **Instruments** to open the product's content.
4. Double-click the **.nki** file to load the instrument.



💡 If you are new to Kontakt and want more information, visit [Kontakt Player](#) and [Kontakt](#).

4. Electric Keys overview

This chapter introduces the main controls and areas of Electric Keys.

When you first open Electric Keys, you see the Main page along with a set of global controls:



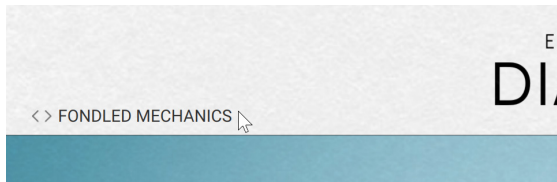
1. **Preset:** The name of the loaded preset is always visible. Presets contain values for all parameters of the instrument: They correspond to [Kontakt Snapshots](#). The name of the preset currently loaded is displayed here. Click the left and right arrows to cycle through presets, or click the name of the preset to open the [Preset Browser](#) and select another preset from the Electric Keys factory library.
2. **About:** Click the instrument name to open the About screen, which displays the credits for this instrument.
3. **MAIN:** Opens the Main page, showing an artwork of the original instrument (depicted above). This is the default page that appears when you load the instrument in Kontakt.
4. **INSTRUMENT:** Opens the Instrument page, which lets you adjust the sonic characteristics of your instrument. Refer to [Instrument page](#).
5. **FX:** Opens the Effect page, where you can configure the effect chain(s) that will process the sound of your instrument. The chain can include a preamplification stage, up to five creative effects, as well as post processing modules including equalization, compression, reverb and delay. For more information, refer to [Effect page](#).
6. **Settings:** Opens the Settings page, which provides global controls related to tuning, response, and MIDI/Macro behavior. For more information, refer to [Settings page](#).
7. **Central area:** This is the biggest part of the instrument and it shows the various pages and Browsers.

8. **Macros:** These controls are always visible at the bottom of the instrument. You can freely assign them to various instrument or effect parameters for immediate tweaking of sounds. For more information, refer to [Macros](#).

5. Preset Browser

The Preset Browser lets you find and load presets from the Electric Keys factory library.

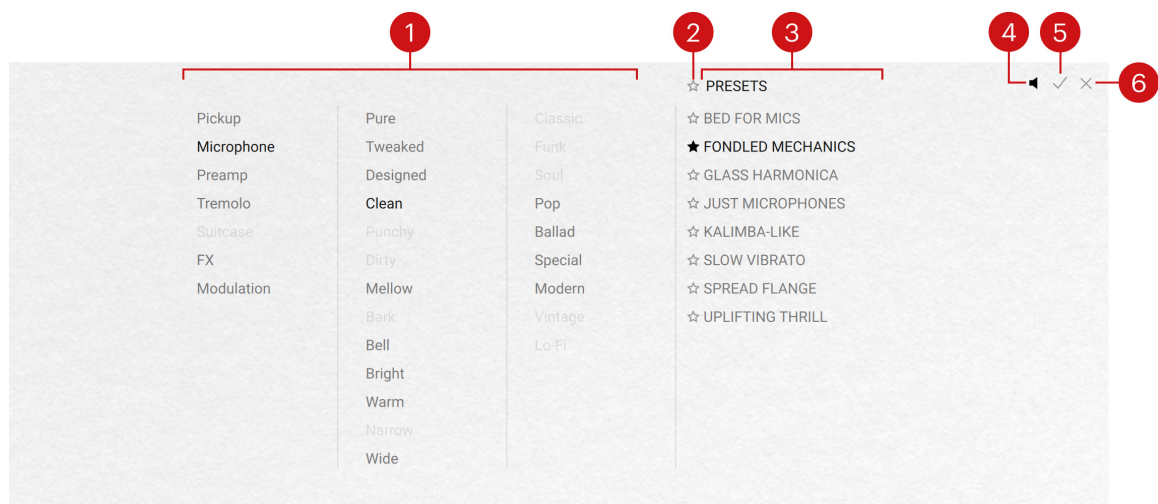
- To open the Preset Browser, click the name of the current preset in the top left corner of the instrument:



The Preset Browser follows this typical workflow:

- In the left part of the Browser, you can click the properties describing the type of sound that you are looking for.
- In the right part of the Browser, the list shows the presets matching the properties that you have selected. You can audition each of them in context before you choose one for loading and close the Browser.

The Preset Browser provides the following controls:



- 1. Tag filter:** You can click the tags describing the sound that you are looking for. The **PRESETS** list on the right is updated accordingly. The Tag filter is organized into three columns, from left to right: Type, Character, and Style. As you select tags, the color of the remaining tags indicates whether or not some presets are available:
 - Black tags are already selected. You can click them to deselect them and widen the scope of your search.
 - Gray tags are not selected but have matching presets in the current **PRESETS** list. You can select them to further narrow your search.
 - Light gray tags are not selected and do not have any matching presets in the current **PRESETS** list. You cannot select them, unless you deselect other tags first.
- 2. Favorites:** You can click the star icons to add or remove presets to/from your Favorites. The star icons are lit for the presets set as Favorites. This way, you can quickly create a custom collection of your most beloved presets. You can then display only your Favorites by clicking the topmost star icon next to the **PRESETS** header. Click the topmost star icon again to display also non-Favorite presets.

3. **PRESETS list:** Shows the presets matching the tags selected in the Tag filter on the left. You can click a preset to load it and try it directly on your keyboard or in your DAW. You can double-click a preset to load it and close the Browser.
4. **Preview:** Switches the Preview function on or off. When Preview is on, clicking a preset in the **PRESETS** list plays a short lick with the preset sound.
5. **OK (check mark):** Keeps the selected preset loaded and closes the Preset Browser. This is the same as double-clicking the preset in the **PRESETS** list.
6. **Cancel (cross):** Closes the Preset Browser without changing anything. Your Kontakt Instrument returns to its previous state.

6. Snapshots

Snapshots are Kontakt's underlying file format for instrument presets. They offer a quick and convenient way of browsing for new sounds and saving custom presets. When a User Snapshot is saved, all parameter adjustments and instrument settings are stored within the preset. Using Snapshots, you can create your own preset sounds, save them in the .nksn file format and use them in other projects, across computers or even share them with other users.

Snapshots overview

Snapshots contain the parameters and controls:



1. **Load Snapshot:** Opens the Snapshot menu where you can load a Snapshot from the **Factory** or **User** library. For more information, refer to [Loading a Snapshot](#).
2. **Snapshot Name:** Displays the name of the currently selected Snapshot.
3. **Snapshot Previous/Next** (<> icons): Allows you to quickly browse and load Snapshots. Pressing an arrow icon will load the previous or next Snapshot in the selected category. If no Snapshot is active, the first Snapshot on the list will be loaded. For more information, refer to [Loading a Snapshot](#).
4. **Save Snapshot** (floppy disk icon): Allows you to save changes made to a sound. When a User Snapshot is saved, the macros settings, parameter controls, and sequence are stored within it and can be accessed at any time via the **User** library. For more information, refer to [Saving a User Snapshot](#).
5. **Delete Snapshot** (bin icon): Deletes the currently selected Snapshot from the **User** library. You can only delete **User** Snapshots and not **Factory** Snapshots. For more information, refer to [Deleting a User Snapshot](#).
6. **Snapshot View** (camera icon): Provides access to the Snapshot features described above; saving, loading, browsing, and deleting. When **Snapshot View** is selected, configuration settings and features relating to the **Info View** are replaced in the display.

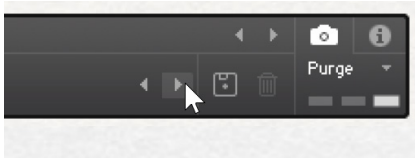
Loading a Snapshot

Snapshots are loaded from the drop-down menu in the top header of the instrument. You can also use the arrows to the left of the floppy disk icon to load the previous or next preset.

To load and browse Snapshots using the arrow icons:

1. Click the Snapshot View (camera icon) to open Snapshot view.

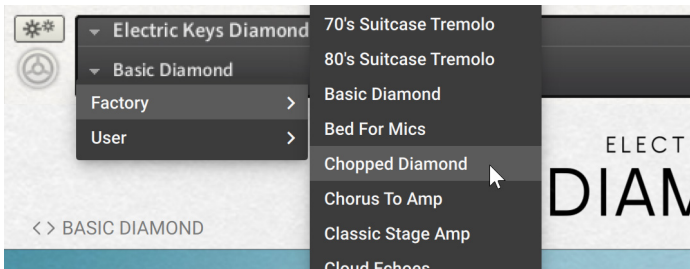
- Click the arrow icons (<>) in the Snapshot header to browse through the Snapshots list.



→ The previous or next Snapshot will load immediately each time an arrow icon is clicked.

To load a Snapshot from the library:

- Click the Snapshot View (camera icon) to open Snapshot view.
- Click the arrow icon next to the Snapshot name field to open the Snapshot menu.
- Select the **Factory** category to load a Factory preset, or select the **User** category to load one of your own Snapshots.
- Select an instrument category, if available.
- Select a Snapshot to load it.



→ The loaded Snapshot is displayed in the instrument header.

i The **User** category will not appear until you have first saved a Snapshot.

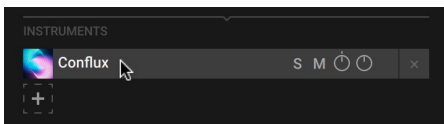
Saving a User Snapshot

You can save User Snapshots to recall your favorite sounds and settings at any time, share them with others, or create backups.

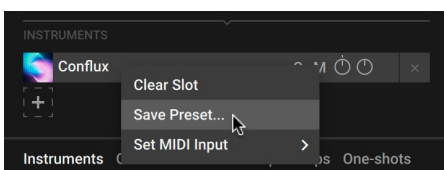
Saving a User Snapshot using the Navigator

When using Kontakt's Default view, you can save User Snapshots using the Navigator in the side pane.

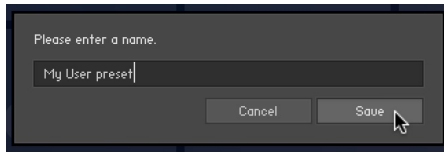
- Right-click the slot in the Navigator you want to save a User Snapshot for.



- Click **Save Preset...** in the context menu to open the Save dialog.



3. Enter a name for your new User Snapshot and click **Save**. If you enter the same of an existing User Snapshot, you will be given the option to replace it by clicking **Overwrite**.



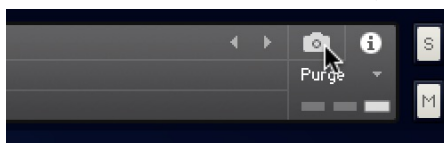
→ The User Snapshot is saved and added to the user content in the Browser.

Saving a User Snapshot using the Instrument Header

User Snapshots can be saved using the Instrument Header. When a sound parameter has been adjusted, that Save button (disk icon) becomes active.

i If you are using Kontakt's Default view, the Instrument Header can be shown or hidden from the **View** menu in the Kontakt Header.

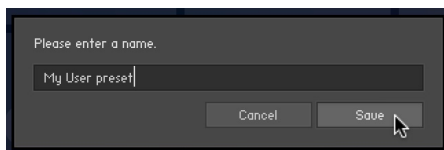
1. Click the Snapshot view button (camera icon) in the Instrument Header.



2. Click the Save button (floppy disk icon) to open the Save dialog.



3. Enter a name for your new User Snapshot and click **Save**. If you enter the same of an existing User Snapshot, you will be given the option to replace it by clicking **Overwrite**.



→ The User Snapshot is saved and added to the user content in the Browser.

User Content Folder

All User Snapshots are automatically stored in the default User Content folder. You can transfer any of your Snapshots to another computer by copying the respective Snapshot files.

The default User Content folders are:

Mac OS X: *Macintosh HD/Users/<User Name>/Documents/Native Instruments/User Content/*

Windows: *C:\Users\<User Name>\My Documents\Native Instruments\User Content*

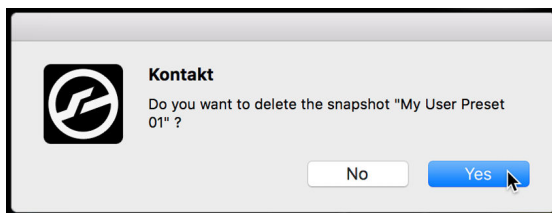


Please make sure you include your *Documents / My Documents* folder in your regular data backups.

Deleting a User Snapshot

Snapshots can be deleted using the bin icon in the instrument header. To delete a User Snapshot:

1. Click the Snapshot view (camera icon) to open Snapshot view.
2. Load the User Snapshot you wish to delete.
3. Click the **Delete** button (bin icon).
4. Confirm deletion of the Snapshot by selecting **Yes** in the dialog box.

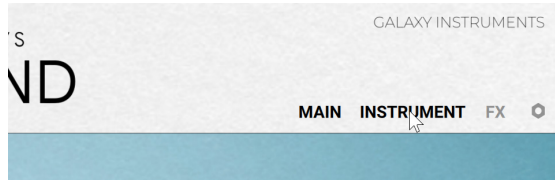


→ The User Snapshot .nksn file is deleted from the User Snapshot Library.

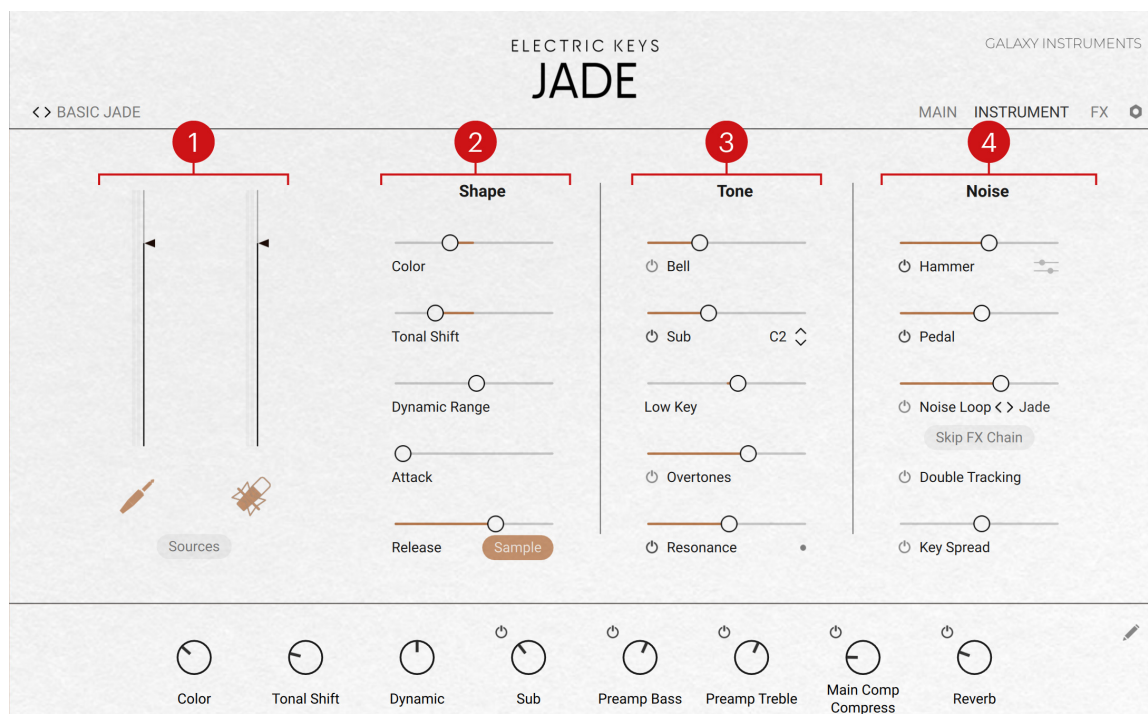
7. Instrument page

The Instrument page lets you modify the sonic characteristics of your keyboard and adjust the mix between the two sources used when sampling the original instrument.

- Click **INSTRUMENT** at the top right of the instrument to open the Instrument page.



The Instrument page is split into four sections:



1. **Sources:** Controls the mix between the two source signals being used (pickup and microphone). For more information, refer to [Sources section](#).
2. **Shape:** Provides parameters affecting the shape of the sound. For more information, refer to [Shape section](#).
3. **Tone:** Adjusts different components of the keyboard sound. For more information, refer to [Tone section](#).
4. **Noise:** Adds various noises to the sound. For more information, refer to [Noise section](#).

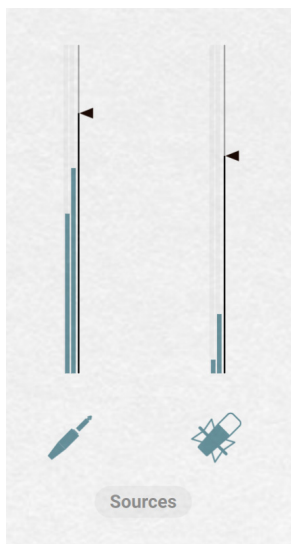
Sources section

The **Sources** section of the Instrument page lets you adjust the mix between the two source signals available in your instrument:

- The **pickup** signal (jack plug icon) has been recorded at the output of the pickups converting the vibrations of the tines into electrical signals. This is the signal used on the real electric piano in common setups, where it is sent to the preamp, amp and speaker.

- The **microphone** signal (microphone icon) has been recorded by a microphone placed next to the tone generators (tines + tone bars) of the piano. This signal contains many subtle mechanical details naturally produced by the instrument.

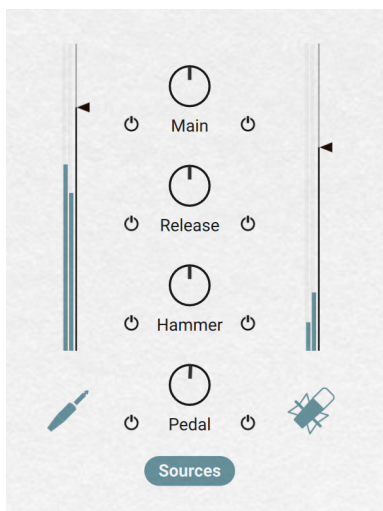
By default, the **Sources** section contains the following controls:



- **Pickup fader, meters, and button:** On the left, you can move the fader vertically to adjust the level of the pickup signal. The current pickup signal level is indicated by the meters near the fader. Click the jack plug icon below the fader to mute or unmute the pickup signal (the icon turns off when the signal is muted).
- **Microphone fader, meters, and button:** On the right, you can move the fader vertically to adjust the level of the microphone signal. The current microphone signal level is indicated by the meters near the fader. Click the microphone icon below the fader to mute or unmute the microphone signal (the icon turns off when the signal is muted).
- **Sources button:** Opens or closes the [mixer details](#).

Sources: mixer details

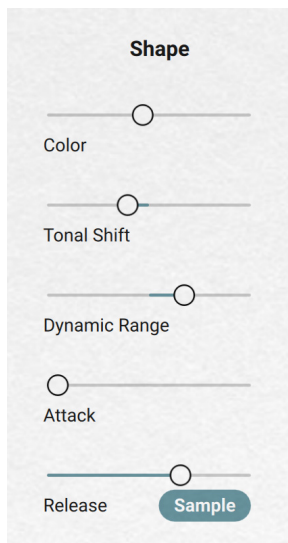
When the **Sources** button is on, the **Sources** section shows additional controls between the faders:



- **Main knob and On/Off switches:** The **Main** knob adjusts the ratio between the pickup and the microphone source signals. The On/Off switch on either side mutes or unmutes the corresponding signal.
- **Release knob and On/Off switches:** The **Release** knob adjusts the relative levels of the **release samples** (if active) in the pickup and microphone signals. Turning the knob to the left will accentuate the release samples in the pickup signal compared to the microphone signal, and inversely. The On/Off switch on either side mutes or unmutes the release samples in the corresponding signal.
- **Hammer knob and On/Off switches:** The **Hammer** knob adjusts the relative levels of the **hammer samples** (if active) in the pickup and microphone signals. Turning the knob to the left will accentuate the hammer samples in the pickup signal compared to the microphone signal, and inversely. The On/Off switch on either side mutes or unmutes the hammer samples in the corresponding signal.
- **Pedal knob and On/Off switches:** The **Pedal** knob adjusts the relative levels of the **pedal samples** (if active) in the pickup and microphone signals. Turning the knob to the left will accentuate the pedal samples in the pickup signal compared to the microphone signal, and inversely. The On/Off switch on either side mutes or unmutes the pedal samples in the corresponding signal.

Shape section

The **Shape** section of the Instrument page provides the following controls:



- **Color:** Adjusts the tone from soft to hard by readjusting the sample mapping. Dragging the slider right will make the instrument sound harder and crisper, with a more pronounced attack phase. Dragging the slider left will achieve a warmer and softer sound, and the attack phase will be less pronounced.
- **Tonal Shift:** Adjusts the playback speed of each sample, resulting in formant or character changes. Dragging the slider right will make the instrument sound sharper, and dragging it to the left will result in a deeper, darker sound with a less defined attack.
- **Dynamic Range:** Controls the dynamic range by adjusting the volume while still using all velocity samples. Drag left to shrink or drag right to expand the dynamic range.
- **Attack:** Adjusts the attack time of the sound.

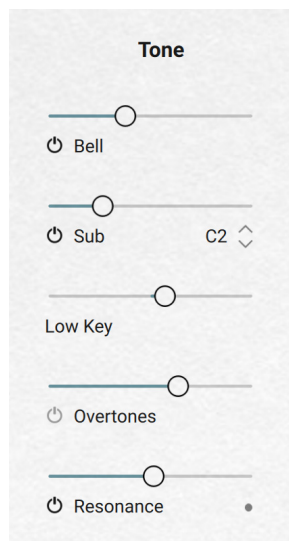
- **Release:** Adjusts the release phase of the sound depending on the state of the **Sample** button:
 - If the **Sample** button is on, the **Release** knob adjusts the level of additional, dedicated release samples.
 - If the **Sample** button is off, the **Release** knob adjusts instead the release time of the sound.

You can adjust the level of the release samples for each source signal by using the **Release** controls in the [Sources section](#) on the left.

i All the parameters in the **Shape** section affect both the pickup and the microphone signals.

Tone section

The **Tone** section of the Instrument page provides the following controls:

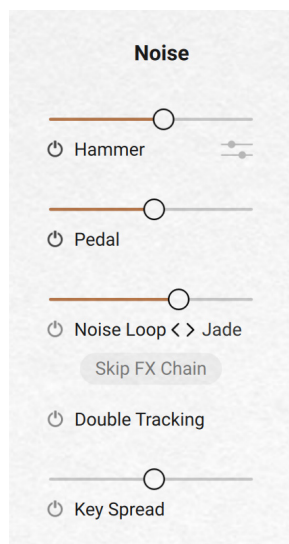


- **Bell controls:** The so-called “bell” samples are additional samples recorded by hitting the tone bars with a little hammer. They provide an extra metallic, bell-like component to the sound. The **Bell** controls affect only the pickup signal.
 - **Bell On/Off switch:** Activates or deactivates the bell samples.
 - **Bell slider:** Adjusts the volume of the bell samples.
- **Sub controls:** Add low-frequency samples to the sound. The **Sub** controls affect only the pickup signal.
 - **Sub On/Off switch:** Activates or deactivates the sub samples.
 - **Sub Key selector:** Sets the split key below which the sub samples are being triggered.
 - **Sub slider:** Adjusts the volume of the sub samples.
- **Low Key:** Adjusts the volume of the keys below middle C. Moving the slider to the left decreases the volume of the lower keys. Moving the slider to the right will increase it. The lower the key, the stronger the effect.

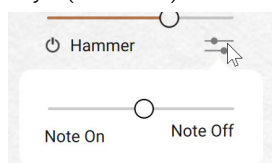
- **Overtone controls:** Add overtone samples to the sound. These overtones add liveliness to the sound. The **Overtone** controls affect only the pickup signal.
 - **Overtone On/Off switch:** Activates or deactivates the overtone samples.
 - **Overtone slider:** Adjusts the volume of the overtone samples.
- **Resonance controls:** Add resonance samples when pressing the sustain pedal. Pressing the sustain pedal on the piano raises all the dampers at once, enabling all tines and tone bars to resonate sympathetically. This adds a fuller and deeper sound to the note. The **Resonance** controls affect only the pickup signal.
 - **Resonance On/Off switch:** Activates or deactivates the resonance samples.
 - **Resonance slider:** Adjusts the volume of the resonance samples.
 - **Pedal indicator:** The resonance samples are triggered only when using the sustain pedal, which is indicated by this LED.

Noise section

The **Noise** section of the Instrument page provides the following controls:



- **Hammer controls:** Add samples of the noises induced by the hammer mechanism (e.g., when releasing the keys). The **Hammer** controls affect both the pickup and the microphone signals.
 - **Hammer On/Off switch:** Activates or deactivates the hammer samples.
 - **Hammer slider:** Adjusts the volume of the hammer samples.
 - **Hammer Settings button** (Electric Keys – Ivory and Jade only): Opens a small panel with one slider adjusting the balance between the hammer noises occurring when you hit the keys (**Note On**) and when you release them (**Note Off**).



You can adjust the level of the hammer samples for each source signal by using the **Hammer** controls in the [Sources section](#) on the left.

- **Pedal controls:** Add samples of the noises induced by the pedal mechanism. The **Pedal** controls affect both the pickup and the microphone signals.
 - **Pedal On/Off switch:** Activates or deactivates the pedal samples.
 - **Pedal slider:** Adjusts the volume of the pedal samples.

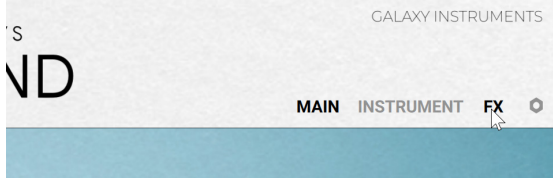
You can adjust the level of the pedal samples for each source signal by using the **Pedal** controls in the [Sources section](#) on the left.

- **Noise Loop controls:** Add samples of the noises induced by the instrument's electrical circuitry as well as noises from other electronic gear and field-recording ambience. The **Noise Loop** controls affect only the pickup signal.
 - **Noise Loop On/Off switch:** Activates or deactivates the noise loop samples.
 - **Noise Loop slider:** Adjusts the volume of the noise loop samples.
 - **Noise Loop menu:** Selects a noise loop from various types of circuitry. You can click the current noise loop type and select the desired entry from the menu, or click the little left/right arrows to select the previous/next noise loop type.
 - **Skip FX Chain:** If this is on, the noise loop samples are sent directly to the instrument's output without passing through the modules on the [Effect page](#).
- **Double Tracking On/Off switch** (Electric Keys – Ivory and Jade only): Activates or deactivates the double tracking effect, which widens the sound by simulating the effect of recording the instrument twice on separate tracks. When **Double Tracking** is on, the **Key Spread** controls below are deactivated.
- **Key Spread controls:** Pan the sound in the stereo field depending on the played key. The **Key Spread** controls affect both the pickup and the microphone signals.
 - **Key Spread On/Off switch:** Activates or deactivates the panning of the notes in the stereo field.
 - **Key Spread slider:** Adjusts the panning of the notes. With the slider in the middle (**0 %**), no panning happens. From the middle, if you move the slider to the right, lower notes will be panned to the left and higher notes to the right. If you move the slider to the left instead, lower notes will be panned to the right and higher notes to the left. The further you move the slider away from its middle position, the stronger the panning effect will be.

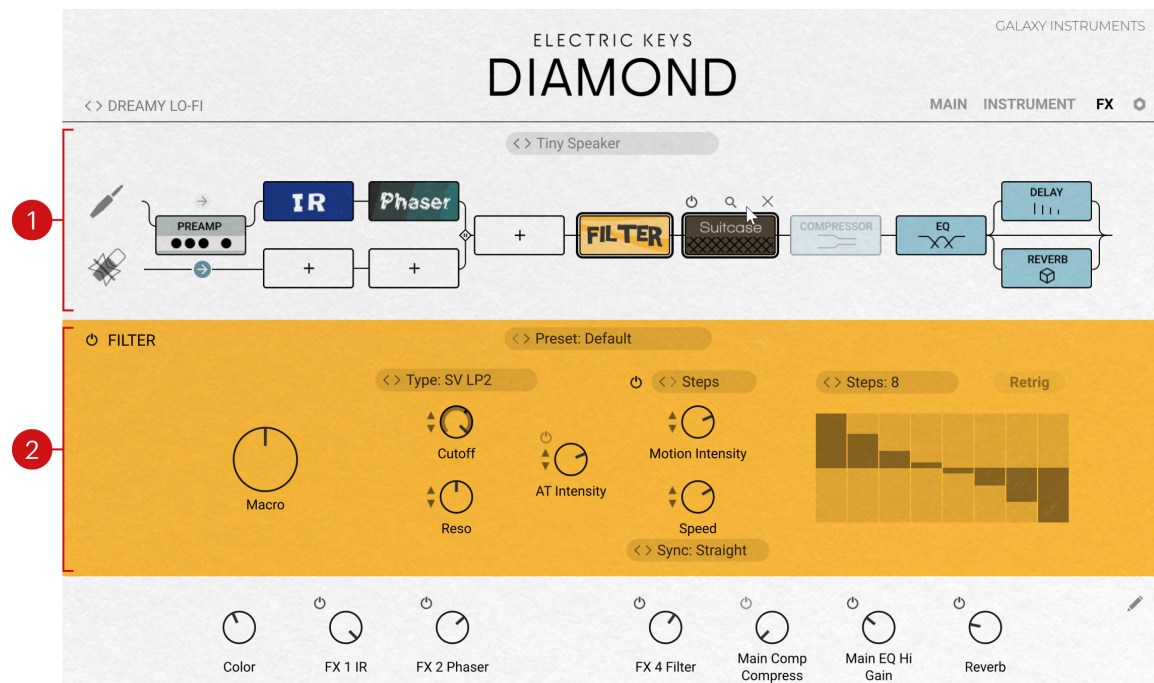
8. Effect page

The Effect page lets you configure the signal flow from the two sources to the output and apply the desired preamplification, creative effects, and post-processing in a flexible way.

- Click **FX** at the top right of the instrument to open the Effect page.



The Effect page contains two main areas:

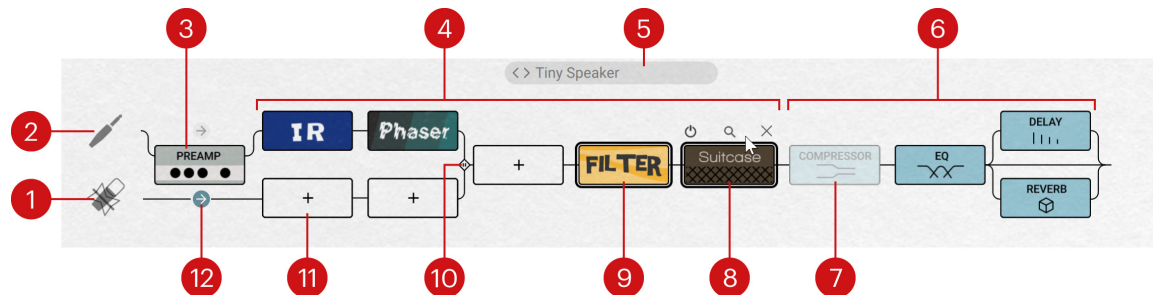


1. **Signal Flow:** In the top part, the Signal Flow represents the path of the audio signal from left to right, starting from the two sources on the left, going through various processing modules, until it reaches the instrument's output on the right. The Signal Flow lets you intuitively modify parts of the signal path, and switch on/off, select, insert, move or remove individual effect modules. You can also load factory presets for the entire effect chain at once. For more information, refer to [Signal Flow](#).
2. **Effect area:** In the bottom part, the Effect area displays by default the controls for the effect module selected in the Signal Flow above. For a description of all available effects, refer to [Effect modules](#). The Effect area also hosts the [Effect Browser](#) and the [Effect Chain Browser](#).

Signal Flow

Located in the upper part of the Effect page, the Signal Flow represents the chain of processing effects applied to the sound. The Signal Flow lets you compose the desired signal path with your mouse, from the pickup and microphone sources at the far left, up to the instrument's output at the far right. Inbetween, the Signal Flow includes three main stages: preamplification, creative effects, and post-processing effects.

The Signal Flow provides the following elements and actions:



1. **Microphone source:** The signal path for the microphone source starts here.
2. **Pickup source:** The signal path for the pickup source starts here.
3. **Preamplification stage:** The preamplification is done by the [Preamp module](#), which is inspired from the preamplifier found on the original instrument.
4. **Creative stage:** You can insert up to five creative effects in series. You can also insert different creative effects for the pickup and for the microphone signals on an adjustable portion of the path by using the Parallel handle. For more information about all of the 27 available creative effects, refer to [Effect modules](#).
5. **Effect chain preset:** Shows the name of the current effect chain preset. Effect chain presets contain settings for the entire effect chain including preamplification, creative effects and post-processing effects. Click the left and right arrows to cycle through presets, or click the preset name to open the [Effect Chain Browser](#) and select another effect chain from the factory library.
6. **Post-processing stage:** Contains four fixed effects ([Compressor](#), [EQ](#), [Delay](#), and [Reverb](#)) that you can switch on or off and adjust to your needs.
7. **Inactive effect:** Inactive effects are grayed out and let the sound pass through without any modification. You can activate or deactivate effects using the On/Off switch appearing when you hover the effect with the mouse.
8. **Hover controls:** When you hover an effect with the mouse, up to three little buttons appear nearby:
 - **On/Off switch** (all effects): Activates or deactivates the effect. Inactive effects are grayed out and don't process the signal.
 - **Browser button (magnifying glass)** (creative stage only): Opens the [Effect Browser](#) in order to replace the effect with another one.
 - **Remove button (cross)** (creative stage only): Removes the effect from the Signal Flow, leaving the slot empty.
9. **Selected effect:** The selected effect is indicated by a thick black frame. The controls of the selected effect are displayed in the Effect area below.
10. **Parallel handle:** Creates distinct, parallel paths on its left for the pickup and the microphone signals in the creative stage. Drag the handle horizontally to adjust the size of the parallel paths. With the handle at full left, both sources are processed by the same effects throughout the creative stage. With the handle at full right, each source has its own path in the creative stage including up to five creative effects each.
11. **Empty slot:** Empty slots display a + sign. Click an empty slot to open the [Effect Browser](#) and load the desired effect into that slot.
12. **Preamplification Bypass buttons (arrows):** Bypass the preamplification stage for either source. Click an arrow button to switch the bypass on or off. When the button is on (lit arrow), the source on its left is directly sent to the creative stage without being processed by the Preamp module, which is visually indicated by the straight path line.

Moving creative effects

You can move effects within the creative stage using drag-and-drop. For example, this can be useful to modify the order in which effects are applied, or to make room for another effect.

To move an effect within the creative stage, do the following:

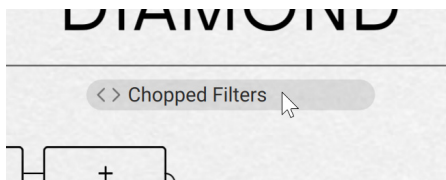
1. Click the effect and hold the mouse button depressed.
 2. Drag your mouse onto the desired slot.
- The effect icon pops out of its slot and follows the cursor movements. On the way, the slots that can accept your effect get highlighted as you hover them with the mouse.
3. When the mouse cursor is above the desired slot, release the mouse button to drop the effect onto that slot.
- The effect takes its new position. If an effect was already in that slot, the two effects change places.

i You can move effects only within the creative stage of the Signal Flow. The Preamp module on the left as well as the last four effects (post-processing stage) cannot be moved.

Effect Chain Browser

The Effect Chain Browser lets you find and load entire effect chains into the [Signal Flow](#).

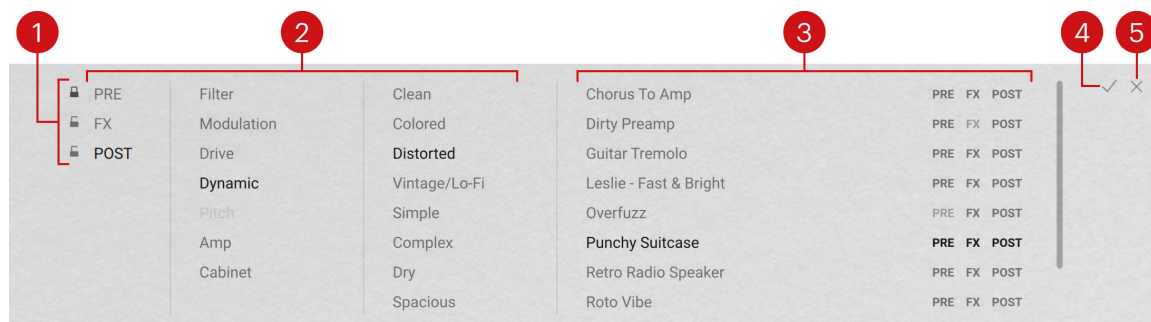
- To open the Effect Chain Browser, click the name of the effect chain preset at the top of the Signal Flow in the Effect page.



The Effect Chain Browser follows the usual workflow:

- In the left part of the Browser, you can click the properties describing the effect chain that you are looking for.
- In the right part of the Browser, the list shows the presets matching the properties that you have selected. You can audition each of them in context before you choose one for loading and close the Browser.

The Effect Chain Browser provides the following controls:



1. **Stage Lock buttons:** Lock or unlock the current settings in the corresponding stage of the Signal Flow (from top to bottom: preamplification, creative, and post-processing stage). Click the desired lock icon to turn the stage lock on or off. Locking settings in a stage allows you to compare and load different effect chains while keeping your settings in that stage.
2. **Tag filter:** You can click the tags describing the sound that you are looking for. The Results list on the right is updated accordingly. The Tag filter is organized into three columns, from left to right: stages in use, effect type, and sonic flavor. As you select tags, the color of the remaining tags indicates whether or not some presets are available:
 - Black tags are already selected. You can click them to deselect them and widen the scope of your search.
 - Gray tags are not selected but have matching presets in the current Results list. You can select them to further narrow your search.
 - Light gray tags are not selected and do not have any matching presets in the current Results list. You cannot select them, unless you deselect other tags first.
3. **Results list:** Shows the effect chain presets matching the tags selected in the Tag filter on the left. You can click a preset to load the effect chain and try it directly in the Signal Flow. You can double-click a preset to load the effect chain and close the Browser. On the right, the dark gray or light gray **PRE**, **FX**, and **POST** labels indicate for each effect chain whether or not it contains active effects in the preamplification, creative, and post-processing stage, respectively.
4. **OK (check mark):** Keeps the selected effect chain loaded and closes the Effect Chain Browser. This is the same as double-clicking the preset in the Results list.
5. **Cancel (cross):** Closes the Effect Chain Browser without changing anything. The Signal Flow returns to its previous state.



While you are navigating in the Effect Chain Browser, if you cannot find again the current effect chain preset in the Results list, click its name again in the field at the top of the Signal Flow above: This will reset the Tag filter and show you the selected preset in the Results list.

Effect Browser

The Effect Browser lets you load effects into the creative stage of the Signal Flow.

- To open the Effect Browser, click an empty slot or click the magnifying glass that appears above an effect when you hover it with the mouse.



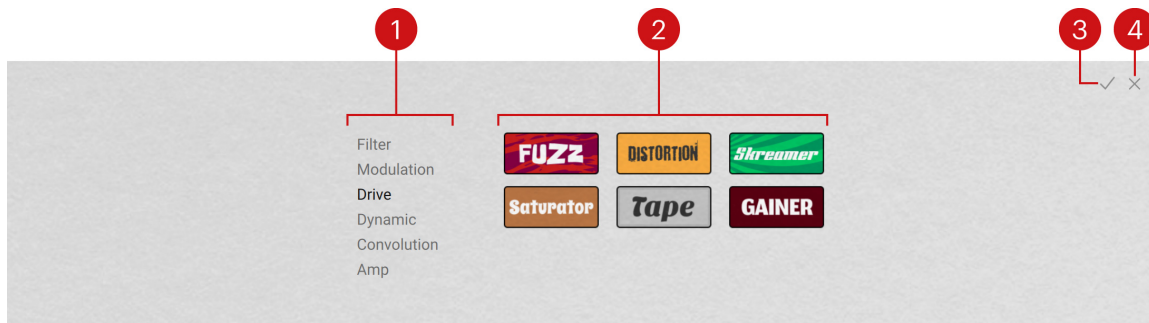
The Effect Browser is available only in the creative stage of the Signal Flow, not in the preamplification nor post-processing stages. For more information, refer to [Signal Flow](#).

The Effect Browser follows the usual workflow:

- In the left part of the Browser, you can choose a particular category of effects.

- In the right part of the Browser, the grid shows the effects in the category that you have selected. You can audition each of them in context before you choose one for loading and close the Browser.

The Effect Browser provides the following controls:



1. **Category filter:** You can select an effect category to display only these effects in the Effect grid on the right.
2. **Effect grid:** Shows icons for all effects corresponding to the category selected on the left, if any. You can click an effect to load it and try it directly in the Signal Flow. You can double-click an effect to load it and close the Browser.
3. **OK (check mark):** Keeps the selected effect loaded and closes the Effect Browser. This is the same as double-clicking the effect in the Effect grid.
4. **Cancel (cross):** Closes the Effect Browser without changing anything. The Signal Flow returns to its previous state.

i For a description of the available effects, refer to [Effect modules](#).

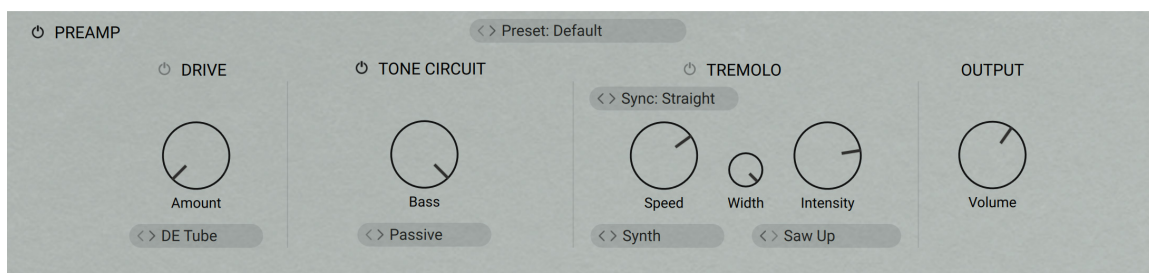
Effect modules

This chapter describes the various effects available in the [Effect page](#).

Preamp module

The Preamp module is inspired by the original preamplifiers found in different variants of the original keyboard.

The Preamp module contains the following parameters and controls:



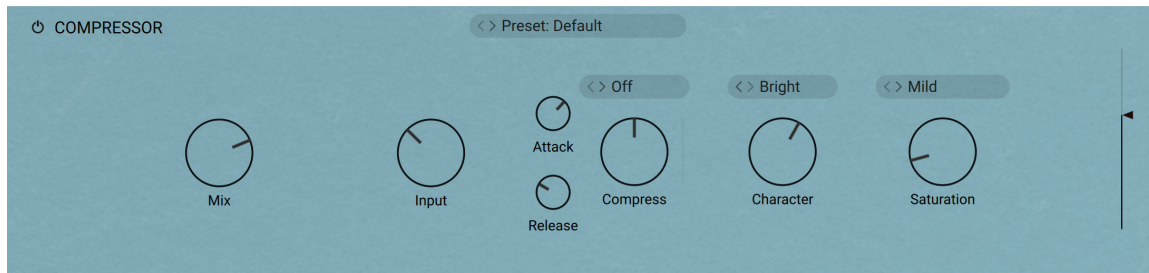
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.

- **DRIVE section:** Controls the preamplification of the audio signals coming from the keyboard.
 - **On/Off:** Turns the preamplification circuit on or off.
 - **Amount:** Adjusts the level of the signal fed into the preamplification circuit. Higher values produce an overdrive saturation.
 - **Drive type selector:** Selects from different types of drive emulation.
- **TONE CIRCUIT section:** Controls the tone of the preamplified audio signal.
 - **On/Off:** Turns the tone circuit on or off.
 - **Bass:** Adjusts the low-frequency content of the signal.
 - **Mid** (Electric Keys – Ivory and Jade only): Adjusts the mid-frequency content of the signal. This control is only available when the Tone Circuit type selector is set to **Electric Grand**.
 - **Treble:** Adjusts the high-frequency content of the signal. This control is not available when the Tone Circuit type selector is set to **Passive**.
 - **Tone Circuit type selector:** Selects from different types of tone circuits.
- **TREMOLO section:** Controls the tremolo effect included in the preamplification stage.
 - **On/Off:** Turns the tremolo circuit on or off.
 - **Sync mode selector:** Selects between four modes that determine the behavior of the **Speed** control. You can select the mode by clicking the left and right arrows next to the mode name, or open the drop-down menu by clicking the mode name.
 - **Free:** The value can be freely adjusted in milliseconds.
 - **Straight:** The value can be adjusted in even note divisions (1/16, 1/8, 1/4, etc.) relative to the tempo of the Metronome.
 - **Dotted:** The value can be adjusted in dotted note divisions (1/16d, 1/8d, 1/4d, etc.) relative to the tempo of the Metronome.
 - **Triplets:** The value can be adjusted in triplet note divisions (1/16t, 1/8t, 1/4t, etc.) relative to the tempo of the Metronome.
 - **Speed:** Adjusts the speed of the amplitude oscillation.
 - **Width:** Adjusts the phase relationship between the stereo channels, progressively transforming a mono tremolo effect (**Width** at full left) into a typical auto pan effect found on the classic electric suitcase pianos (**Width** at full right).
 - **Intensity:** Adjusts the depth of the amplitude oscillation. At full left, no tremolo can be heard. At full right, the tremolo oscillates from the signal's amplitude down to zero and back up.
 - **Tremolo type selector:** Selects from different types of tremolo circuits.
 - **Waveform selector:** Selects a waveform for the amplitude oscillation. This control is available only when the Tremolo type selector is set to **Synth**.
- **OUTPUT Volume:** Adjusts the level of the output signal.

Compressor

The Compressor allows you to apply compression to the audio output of your instrument.

The Compressor module contains the following parameters and controls:

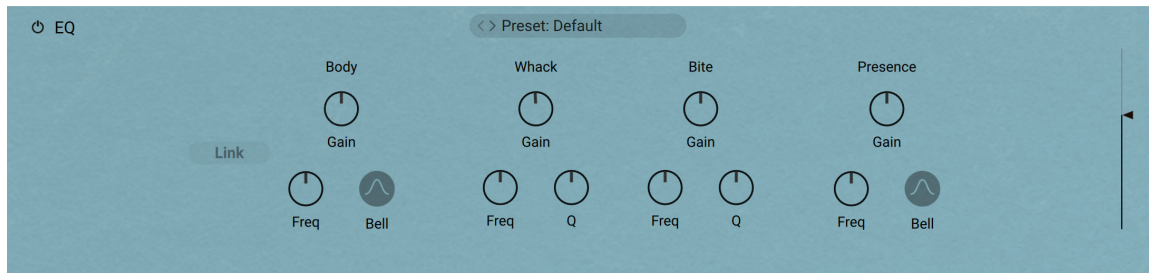


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Mix:** Adjusts parallel compression. The uncompressed (dry) signal will be mixed with a compressed version of the same signal. It gives the excitement of a compressed signal without losing its dynamic and transients. If the **Mix** knob is at full right, you only hear the compressed signal. With the **Mix** knob at full left, you only hear the dry signal. Every setting in-between is a mix of both signals.
- **Input:** Adjusts the level of the input signal entering the compressor.
- **Attack:** Adjusts how fast the compressor reacts to incoming signals.
- **Release:** Adjusts the length of the compressor's release phase, that is, the time it takes for the compressor to return to its standby state.
- **Compress:** The more you turn the **Compress** knob clockwise, the more the compression will be applied to the input signal while retaining an even loudness level. Note that in order to make this work you need to set the input level correctly by adjusting the **Input** knob. The amount of applied compression is indicated in real-time by the vertical bar right of the **Compress** knob.
- **High-Pass Filter selector** (above the **Compress** knob): You can prevent the compressor from reacting primarily to low-frequency signal peaks by using the high-pass filter. When on, the high-pass filter will cut the internal detector signal below the selected frequency. Switch between the two cutoff frequencies (**100 Hz** or **300 Hz**) to figure out which one works best.
- **Character:** Use the equalizer controlled by the **Character** knob to fatten signals lacking substance or smoothen signals too aggressive due to heavy saturation.
- **Character mode selector:** Provides access to three character modes, with **Fat** mode emphasizing low and high frequencies, and **Warm** mode rolling off some highs while enhancing the lower frequency spectrum. **Bright** mode enhances the top end and attenuates the bottom end of the signal, which is great for making boomy instruments stand out in the mix.
- **Saturation:** Adjusts the amount of saturation. Increase the **Saturation** value to add dirt, warmth and loudness to your sound.
- **Saturation mode selector:** The compressor offers three different Saturation modes you can use to shape your signals. **Mild** mode is a nice way of coloring signals while retaining a clean sound, while **Moderate** mode will tastefully add more noticeable harmonics. Switch to **Hot** mode for maximum saturation and audible distortion.
- **Output slider:** Adjusts the level of the output signal.

EQ (post-processing effect)

The EQ allows you to apply a 4-band equalization to the audio output of your instrument.

The EQ module contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Link:** If you have adjusted the **Gain** knobs in a certain way and switch on **Link**, all **Gain** knobs will change proportionally as you adjust one of them, keeping the sound or style of your custom EQ setting.
- **Gain knobs:** Adjust the levels of the four frequency bands. From left to right, the knobs control lower to higher frequency bands. The frequency bands are described in musical terms, as shown by the labels above the knobs. You can customize the frequency band of each gain knob to your needs using the two controls below.
- **Freq knobs:** control the center frequency of each band. As you adjust the frequency, the musical term of the **Gain** knob above changes accordingly.
- **Q knobs:** control the sharpness of the bandwidth for the middle two frequency bands: The higher **Q** is, the narrower the band is.
- **Bell buttons:** switch the outer two frequency bands between shelf (button off) and bell (button on).
- **Output slider:** Adjusts the level of the output signal.

Delay

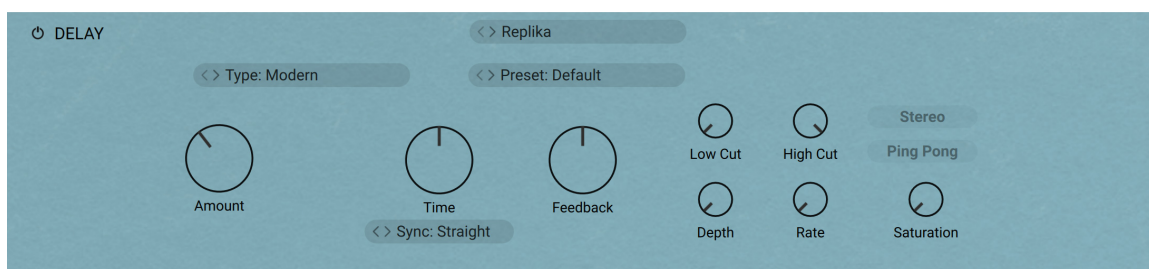
The Delay allows you to apply a delay effect to the audio output of your instrument.

At the top of the Delay module, the **Delay Engine menu** lets you select the delay engine to use from the two available: **Replika** and **Twin**. The other parameters of the Delay depend on the selected engine.

Replika Delay

By selecting **Replika** in the Delay Engine menu, you activate the Replika delay. The Replika delay is a full-featured delay unit based on the Native Instruments Replika XT delay plug-in. Notably, it includes the **five delay styles** from Replika XT: Modern, Analog, Vintage, Tape and Diffusion, each with its own unique sound and behavior.

The Replika delay contains the following controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Type selector:** Selects between five different delay styles that determine the basic sound character. The last three controls of the delay vary with each type.
 - **Modern:** Clean and defined delay with adjustable, tube-like saturation. The built-in modulation changes the delay time periodically. This shifts the timing and pitch of the delay signal, adding depth and movement to the sound. Unlike the built-in modulation, manual adjustments of the delay time do not alter the pitch of the delay signal.
 - **Analogue:** Dark and hazy emulation of BBD (Bucket Brigade Device) delays, which include old analogue studio effects as well as many contemporary guitar pedals. The sound of the delay depends on the delay time: As the delay time is increased, the delay repeats will become darker, with more noise and distortion being introduced to the signal. The built-in modulation changes the delay time periodically. This shifts the timing and pitch of the delay signal, adding depth and movement to the sound.
 - **Tape:** Textured and lively emulation of classic tape delays. It gives you full control over their unique properties, including the amount of saturation, the age of the tape, and the intensity of flutter.
 - **Vintage:** Warm and crunchy emulation of early digital delay effects. The sound of the delay depends on the delay time. As the delay time is increased, the delay repeats will become grittier, with more digital artifacts being introduced to the signal. The built-in modulation changes the delay time periodically. This shifts the timing and pitch of the delay signal, adding depth and movement to the sound.
 - **Diffusion:** Clean delay combined with a unique reverb effect. It can be used to create a wide range of different ambiances, from tight and resonant to unnaturally vast spaces.
- **Amount:** Adjusts the level of the signal sent to the effect.
- **Time:** Adjusts the delay time. Depending on the selected Sync mode, the delay time is either freely adjusted in milliseconds or synchronized to Kontakt's global tempo, which is the tempo of your DAW is Kontakt is running as a plug-in.
- **Sync mode selector:** Selects between four modes that determine the behavior of the **Time** control. You can select the mode by clicking on the left and right arrows next to the mode name, or open the drop-down menu by clicking on the mode name.
 - **Free:** The delay time can be freely adjusted in milliseconds.
 - **Straight:** The delay time can be adjusted in even note divisions (1/16, 1/8, 1/4, etc.) relative to the tempo of the Metronome.
 - **Dotted:** The delay time can be adjusted in dotted note divisions (1/16d, 1/8d, 1/4d, etc.) relative to the tempo of the Metronome.
 - **Triplets:** The delay time can be adjusted in triplet note divisions (1/16t, 1/8t, 1/4t, etc.) relative to the tempo of the Metronome.
- **Feedback:** Adjusts the level of the signal that is being fed back to the delay's input. Increasing the feedback level creates more delay repeats that decay over time. Feedback levels of 100 % and above are possible, allowing the delay repeats to build up until the point of self-oscillation.
- **Low Cut:** Attenuates low-frequency content in the feedback path of the delay using a low-cut filter. Turned all the way to the left, the filter is off. Turning it to the right raises the cutoff frequency of the filter, resulting in a brighter tone of the delay.
- **High Cut:** Attenuates high-frequency content in the feedback path of the delay using a high-cut filter. Turned all the way to the right, the filter is off. Turning it to the left lowers the cutoff frequency of the filter, resulting in a darker tone of the delay.

- **Ping Pong:** Turns Ping Pong mode on or off. In Ping Pong mode, the delay repeats are panned hard left and right in an alternating pattern.

The remaining controls depend on the delay type selected in the **Type** selector, as described below.

Type: Modern

- **Depth:** Adjusts the amount of built-in modulation applied to the delay time.
- **Rate:** Adjusts the speed of the built-in modulation.
- **Stereo:** Switches between stereo and mono operation for the built-in modulation. When activated, the modulation between the left and the right stereo channels is offset in time, resulting in a wide stereo effect. When deactivated, the modulation affects both the left and the right stereo channels in the same way.
- **Saturation:** Adds tube-like saturation at the delay input. With the control at full left the saturation is bypassed, moving it to the right pushes the sound from subtle warmth to overdrive. The amount of saturation depends on the input level.

Type: Analogue

- **Depth:** Adjusts the amount of built-in modulation applied to the delay time.
- **Rate:** Adjusts the speed of the built-in modulation.
- **Stereo:** Switches between stereo and mono operation for the built-in modulation. When activated, the modulation between the left and the right stereo channels is offset in time, resulting in a wide stereo effect. When deactivated, the modulation affects both the left and the right stereo channels in the same way.
- **BBD Type:** Selects one of four BBD delay models: **Clean, Warm, Dark, Grunge**. The character of the four models ranges from subtle filtering and distortion (**Clean, Warm**) to a highly degraded sound (**Dark, Grunge**).

Type: Tape

- **Saturation:** Adjusts the amount of tape saturation from a clean sound to overdrive.
- **Tape Age:** Enhances the characteristics of an aging tape, like limited high-frequency response and hiss (depending on the **Noise** button's state).
- **Flutter:** Increases the effects introduced by mechanical imperfections of the tape delay's motor and tape transport, resulting in pitch variations over time.
- **Noise:** Switches the tape hiss on or off. The amount of hiss depends on the **Tape Age** control.

Type: Vintage

- **Depth:** Adjusts the amount of built-in modulation applied to the delay time.
- **Rate:** Adjusts the speed of the built-in modulation.
- **Stereo:** Switches between stereo and mono operation for the built-in modulation. When activated, the modulation between the left and the right stereo channels is offset in time, resulting in a wide stereo effect. When deactivated, the modulation affects both the left and the right stereo channels in the same way.
- **Quality:** Selects one of four quality settings for the delay: **High, Medium, Low, Crunch**. The **High** setting has a bright, subtly textured sound. **Medium** and **Low** sound darker and grittier. **Crunch** has a bright sound but also introduces a lot of digital artifacts to the signal.

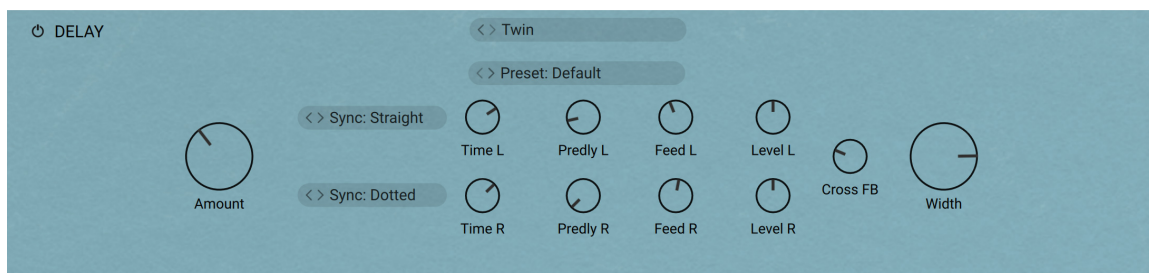
Type: Diffusion

- **Amount:** Adjusts the amount of diffusion applied to the delay signal, resulting in a reverb effect. High settings make the delay appear out of sync, so low settings are recommended if the rhythmic timing of the delay is essential.
- **Size:** Adjusts the swell, reflection pattern and decay of the reverb effect, giving the impression of differently sized spaces.
- **Dense:** Switches between two density settings for the reflection pattern of the reverb effect. When activated, the reflection pattern is dense and washed out. When deactivated, the reflection pattern is sparse with a granular quality.
- **Modulation:** Adjusts the depth and speed of modulation applied to the diffusion, shifting the timing and pitch of the reflections for a wide reverb effect.

Twin Delay

By selecting **Twin** in the Delay Engine menu, you activate the Twin delay. The Twin delay combines two parallel delay channels for advanced stereo effects. The two delays are dedicated to the left and right stereo channel, respectively. You can use them to create rhythmic echoes that bounce through the stereo image.

The Twin delay contains the following controls:



The following controls act globally and affect both delay channels at the same time.

- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Amount:** Adjusts the level of the signal sent to the effect.

The following controls are available for each of the two delay channels **L** and **R** independently.

- **Sync mode selector:** Selects between four modes that determine the behavior of the **Time** control. You can select the mode by clicking on the left and right arrows next to the mode name, or open the drop-down menu by clicking on the mode name.
 - **Free:** The delay time can be freely adjusted in milliseconds.
 - **Straight:** The delay time can be adjusted in even note divisions (1/16, 1/8, 1/4, etc.) relative to the tempo of the Metronome.
 - **Dotted:** The delay time can be adjusted in dotted note divisions (1/16d, 1/8d, 1/4d, etc.) relative to the tempo of the Metronome.
 - **Triplets:** The delay time can be adjusted in triplet note divisions (1/16t, 1/8t, 1/4t, etc.) relative to the tempo of the Metronome.
- **Time:** Adjusts the delay time. Depending on the selected Sync mode, the delay time is either freely adjusted in milliseconds or synchronized to Kontakt's global tempo, which is the tempo of your DAW if Kontakt is running as a plug-in.

- **Predly:** Adjusts the duration of the initial delay added to the channel. This predelay is independent of the **Time** control and does not affect the delay repeats. To achieve classic ping-pong echoes, set the same **Time** for both channels and increase the **Predelay** on one of them.
- **Feed:** Adjusts the amount of feedback. Turning **Feed** to the right increases the amount of delay repetitions.
- **Level:** Adjusts the output level of the delay channel.

The following controls act globally and affect both delay channels simultaneously.

- **Cross FB:** Adjusts the amount of cross-feedback, which feeds the left channel output back into the right channel input and vice versa.
- **Width:** Adjusts the stereo image of the delay signal. At center position, the signal is mono. Turning the control to the right increases the width of the stereo image. Turning the control to the left increases the width of the stereo image and flips the left and right stereo channel.

Reverb

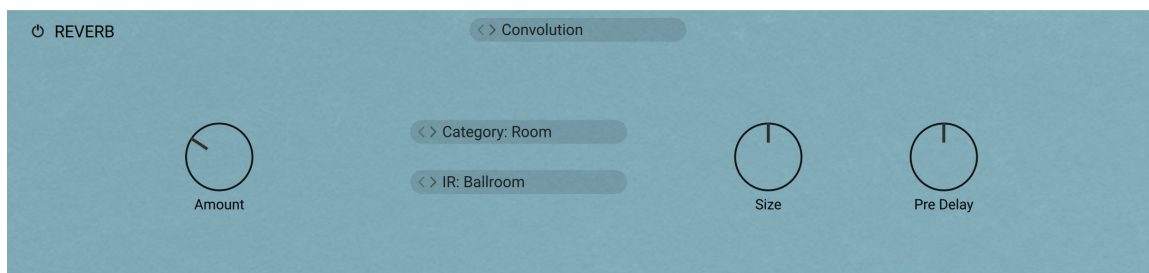
The Reverb allows you to apply a reverb effect to the audio output of your instrument.

At the top of the Reverb module, the **Reverb Engine menu** lets you select the Reverb engine to use from the three available: **Convolution**, **Algorithmic**, and **Plate**. The other parameters of the reverb depend on the selected engine.

Convolution Reverb

By selecting **Convolution** in the Reverb Engine menu, you activate the Convolution reverb. The convolution reverb uses impulse responses of various vintage reverb units and concert halls, churches and rooms to recreate those acoustic spaces.

The Convolution reverb contains the following controls:

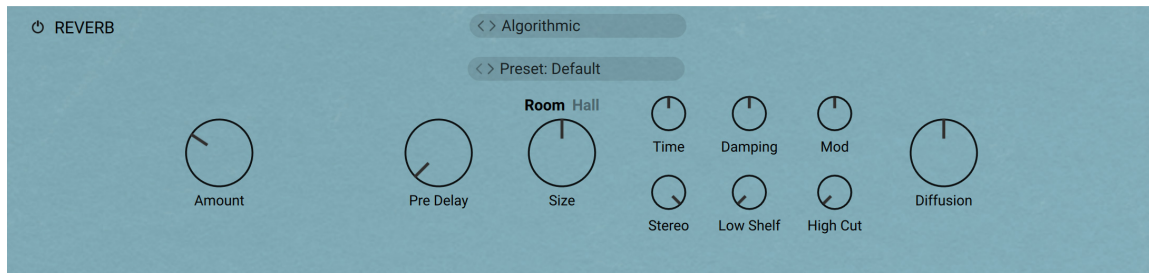


- **On/Off:** Turns the effect on or off.
- **Amount:** Adjusts the level of the signal sent to the effect.
- **Category selector:** Selects the category for the impulse response files. Available categories are **Room**, **Hall**, and **Vintage**.
- **IR selector:** Selects an impulse response from the category selected above.
- **Size:** Adjusts the size of the reverb effect by lengthening or shortening the selected impulse response.
- **Pre Delay:** Adjusts the delay before the reverb starts.

Algorithmic Reverb

By selecting **Algorithmic** in the Reverb Engine menu, you activate the Algorithmic reverb.

The Algorithmic reverb contains the following controls:

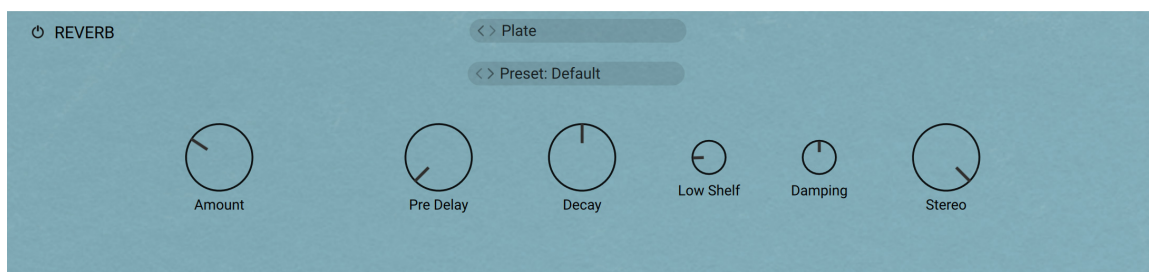


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Amount:** Adjusts the level of the signal sent to the effect.
- **Pre-Delay:** Introduces a short amount of delay before the reverb takes effect.
- **Room/Hall button:** Selects between two reverberation modes simulating the sound character of a hall or a room.
- **Size:** Adjusts the size of the hall or room simulated by the reverb effect. Higher values replicate larger spaces.
- **Time:** Adjusts the duration of the reverb effect.
- **Damping:** Adjusts the amount of absorption in the room simulated by the reverb effect. Higher values result in more absorption.
- **Mod:** Adjusts the amount of modulation applied to the reverb effect. Turned fully counter-clockwise, no modulation is applied.
- **Stereo:** Controls the stereo image of the reverb effect. Higher values result in a wider stereo image.
- **Low Shelf:** Attenuates or amplifies the low-frequency content of the reverb signal.
- **High Cut:** Cuts the high-frequency content of the reverb signal.
- **Diffusion:** Adjusts the density of the reflections in the room simulated by the reverb effect.

Plate Reverb

By selecting **Plate** in the Reverb Engine menu, you activate the Plate reverb.

The Plate reverb contains the following controls:



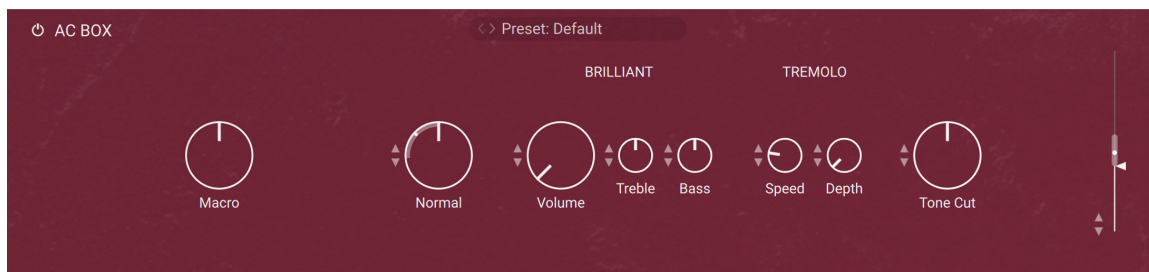
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Amount:** Adjusts the level of the signal sent to the effect.
- **Pre-Delay:** Introduces a short amount of delay before the reverb takes effect.

- **Decay:** Adjusts the duration of the reverb effect.
- **Low Shelf:** Attenuates or amplifies the low-frequency content of the reverb signal.
- **Damping:** Adjusts the amount of absorption in the room simulated by the reverb effect. Higher values result in more absorption.
- **Stereo:** Controls the stereo image of the reverb effect. Higher values result in a wider stereo image.

AC Box

The AC Box models the sound that powered British pop music. This particular model stands out with a unique flavor and the Brilliant channel, famously known as top boost. The Normal channel features a Tone Cut control that reduces high-frequency content, while the Brilliant channel offers Bass and Treble controls. Both channels can be mixed for a great variety of sounds.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Normal Volume:** Adjusts the level of the Normal channel. The Bass and Treble controls have no effect in this channel.
- **Brilliant Volume:** Adjusts the level of the Brilliant channel.
- **Brilliant Treble:** Adjusts the high-frequency response of the Brilliant channel.
- **Brilliant Bass:** Adjusts the low-frequency response of the Brilliant channel.
- **Speed:** Adjusts the rate of the tremolo effect.
- **Depth:** Adjusts the intensity of the tremolo effect. When turned fully to the left, the effect is switched off.
- **Tone Cut:** Applies a low-pass filter to the Normal channel. Turning the knob to the right reduces high-frequency content.
- **Output slider:** Adjusts the level of the output signal.

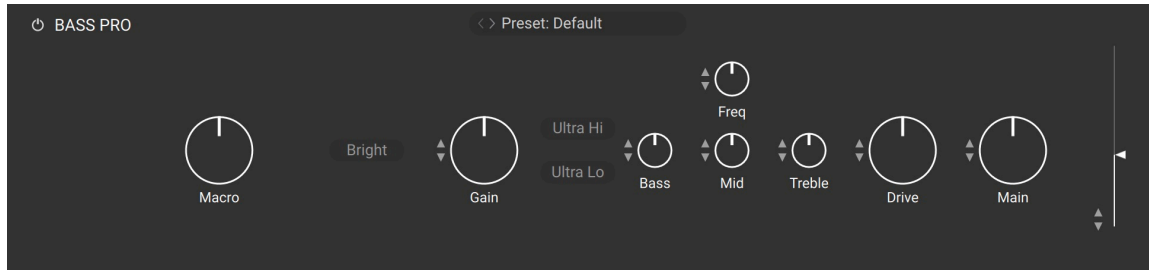
Bass Pro



This effect is available only in Electric Keys – Ivory and Jade.

Bass Pro models a gritty and growling amplifier sound that makes the bass stand out in the mix. It includes a graphic equalizer that allows you to precisely tailor the sound.

This creative effect contains the following parameters and controls:



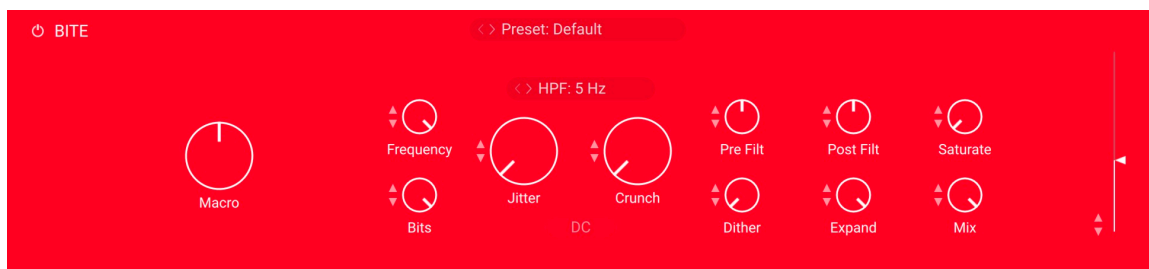
- **Bright:** Boosts high-frequency content.
- **Gain:** Adjusts the input level, or gain, of the amplifier. Turning **Gain** to the right adds saturation and distortion to the signal.
- **Ultra Hi:** Boosts high-frequency content in a wide frequency range. The effect is more pronounced than the one achieved using **Bright**.
- **Ultra Lo:** Boosts low-frequency content and cuts mid-frequency content.
- **Bass:** Adjusts the low-frequency response.
- **Mid:** Adjusts mid-frequency content in a frequency band set using the **Mid Freq** control.
- **Mid Freq:** Sets the frequency band adjusted using the **Mid** control from 200 Hz to 3200 Hz.
- **Treble:** Adjusts the high-frequency response.
- **Drive:** Adjusts gain specifically for mid-frequency content, thereby changing the character of the sound.
- **Main:** Adjusts the output level of the Component.

Bite

i This effect is available only in Electric Keys – Ivory and Jade.

Bite combines bit and sample rate reduction effects, making it possible to add complex textures to the signal or completely deteriorate the sound in many different ways. It simulates the audio being sampled and replayed using a low-quality sampler with limited sample rate and bit depth, and can be used to create distortion effects that sound like vintage studio equipment, or inherently lo-fi sound sources, like old video games.

This creative effect contains the following parameters and controls:



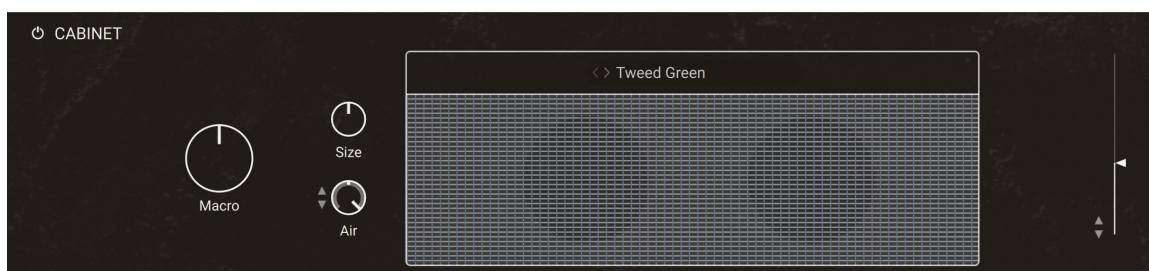
- **Frequency:** Adjusts the sampling frequency at which the input signal is resampled in a range of 0.1 kHz to 44.100 kHz.

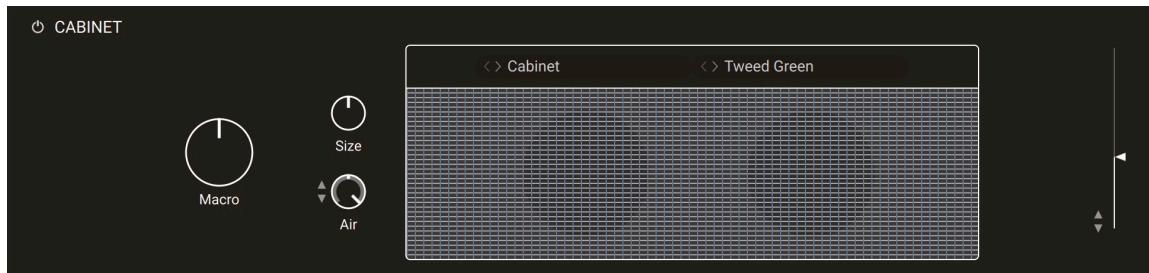
- **Bits:** Adjusts the amount of available quantization values by setting the bit depth in the range of 2 bits to 16 bits. Each sample of the signal is quantized to the available values. A lesser amount of values results in a more distorted sound.
- **HPF:** Adjusts the cutoff frequency of a 1-pole high-pass filter that is applied to the output signal. It aims remove low-frequency and DC components from the signal. It provides three cutoffs 5 Hz, 100 Hz and 200 Hz.
- **Jitter:** Adjusts the amount of clock jitter. This adds fluctuations to the sampling rate of the resampling algorithm, effectively making the signal noisier. The jitter is added to the left and right stereo channels independently, resulting in a wide stereo image for the noise component.
- **Crunch:** Provides continuous control over the bit reduction effect, reducing the amount of used quantization values by lowering the signal level before the bit reduction algorithm. This allows you to smoothly control the resolution without stepping effects.
- **DC:** Toggles between two different modes for the quantization of the input signal according to the bit depth (**Bits**). When activated, the zero level is removed from the available bit values, effectively sustaining the sound with a buzzing square wave. When deactivated, the output signal fades to silence immediately.
- **Pre Filt:** Adjusts the cutoff frequency of a low-pass filter that is applied to the input signal. You can use it to remove frequencies that would produce aliasing noise in the resampling algorithm. At center position, the cutoff frequency is half of the sampling frequency. Its range is from 50 Hz to 22050 Hz.
- **Post Filt:** Adjusts the cutoff frequency of a low-pass filter that is applied to the output signal. You can use it to remove aliasing noise. At center position, the cutoff frequency is half of the sampling frequency. Its range is from 50 Hz to 22050 Hz.
- **Saturate:** Drives the quantized signal into a saturator and compensates for the loudness increase caused by the saturation.
- **Dither:** Adjusts the amount of noise that is added to the resampled signal to reduce distortion caused by quantization errors. In this effect, the noise amount can be increased for creative purposes. Independent noise sources are used for left and right stereo channels, resulting in a wide stereo image for the noise component.
- **Expand:** Changes the distribution of the quantization values in the amplitude range. When set fully to the left, low-level signals are quantized at a higher resolution. When set fully to the right, the resolution available for quantizing low-level signals is reduced, effectively turning them into pulse waves.
- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.

Cabinet

Cabinet simulates the sound of a guitar cabinet recorded through a microphone.

This creative effect contains the following parameters and controls:



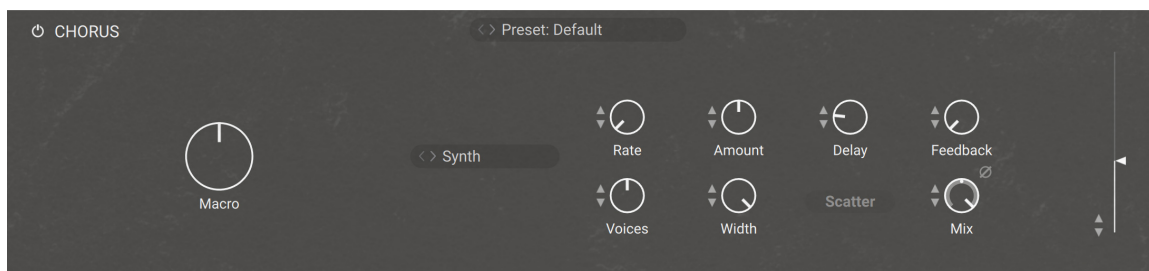


- **On/Off:** Turns the effect on or off.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Cabinet Category:** Switches between the Cabinet and Guitar FX category. Each category includes its own set of cabinets that can be selected using the Cabinet Type selector. The **Size** and **Air** controls are not available when **Guitar FX** is selected.
- **Cabinet Type:** Allows you to choose the simulated cabinet model. You can select a model by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Size:** Adjusts the size of the simulated cabinet. Larger cabinets tend to have a more pronounced bass response, while smaller cabinets can sound thin and tinny.
- **Air:** Controls the level of early reflections in the room response, adding a sense of space to the sound.
- **Output slider:** Adjusts the level of the output signal.

Chorus

Inspired by chorus effects found in synthesizers and studio rack processors from the seventies and early eighties, Chorus features four distinct chorus modes, ranging from the subtle sound of classic studio rack processors to the large ensemble sound of early string synthesizers.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).

- **Mode:** Switches between four chorus modes, each with its own sound characteristic and modulation behavior. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
 - **Synth:** This mode is inspired by the choruses of polyphonic synthesizers from the late seventies and early eighties. Its sound characteristic is dark and vintage. The modulation behavior is tuned for rich and dispersed sounds.
 - **Ensemble:** This mode is inspired by the choruses of string synthesizers from the seventies. Its sound characteristic is warm and lush. The modulation behavior is tuned for animated and lively sounds.
 - **Dimension:** This mode is inspired by the choruses of studio rack processors from the early eighties. Its sound characteristic is bright and transparent. The modulation behavior is tuned for wide and consistent sounds.
 - **Universal:** This mode is a more generic chorus implementation. Its sound characteristic is clean and modern. The modulation behavior is tuned for a range of sounds from consistent to lively, depending on the number of **Voices**.
- **Rate:** Adjusts the speed of modulation, from slow pitch changes to fast vibratos. This becomes more pronounced as **Amount** is increased.
- **Voices:** Fades from one to three chorus voices. Increasing the number of chorus voices adds a dense and ensemble-like quality to the sound. The modulation affects the second and third chorus voice differently from the first, resulting in a wider and livelier sound.
- **Amount:** Adjusts the amount of modulation applied to **Delay**, altering the delay times of the chorus voices. Due to the configuration of the delays, this also changes the pitch of the chorus voices, creating the classic chorusing effect.
- **Width:** Pans the chorus voices in opposite directions, widening the stereo image. When **Width** is set to 0, the input's stereo image is preserved.
- **Delay:** Adjusts the delay times of the chorus voices, allowing you to change the spatial depth of the sound. This parameter strongly interacts with **Feedback**.
- **Scatter:** Enables a special feedback routing for the chorus voices that introduces reverb-like behavior.
- **Feedback:** Adjusts the level of the feedback signals from the outputs of the chorus voices to their inputs, creating a more sustained and spacious sound
- **Invert:** Changes the sound characteristic of the chorusing effect by inverting the effect signal.
- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.
- **Output slider:** Adjusts the level of the output signal.

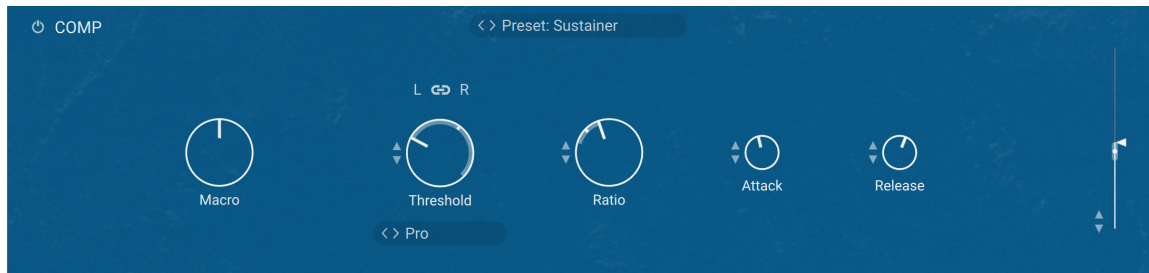
Comp



This effect is available only in Electric Keys – Ivory and Jade.

Comp is a classic compressor providing a neutral, straightforward compression. You can use it to control the dynamics of your sound and keep soft and loud notes in a reasonable range.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **L-R Link** (Stereo link): When activated, this causes the compressor to always act on the left and right channels in unison, preserving the stereo image. When deactivated, the Compressor becomes a dual mono processor, which means that both channels will be processed independently.
- **Threshold:** Sets a threshold level above which the Compressor starts working. Only levels that rise above this threshold will be reduced by the compression; signals that stay below it will be left unprocessed.
- **Mode selector:** Selects between **Classic**, **Enhanced**, and **Pro** modes. Each of these settings provides a different flavor of compression; if you feel you cannot make a setting work with your sound, you should experiment with the other modes in this menu.
- **Ratio:** Controls the amount of compression, expressed as a ratio of input level change against output level change. A Ratio of 1:1 results in no compression. A Ratio of 2:1 means that a level increase of 2 dB at the input will raise the output level by only 1 dB. A 4:1 Ratio results in more aggressive compression, with a 4 dB level increase at the input causing a 1 dB increase at the output.
- **Attack:** Adjusts the time the Compressor will take to reach the full compression after an input signal exceeds the Threshold level. If you're using compression mainly for transparent dynamic reduction, values between 5 and 10 ms are a good starting point. Longer attack times can be useful for emphasizing transients and adding punch to a signal.
- **Release:** Adjusts the time the compressor will take to fall back to non-compression after the input signal falls below the threshold. Typical values range from 50 to 250 ms.
- **Output slider:** Adjusts the level of the output signal.

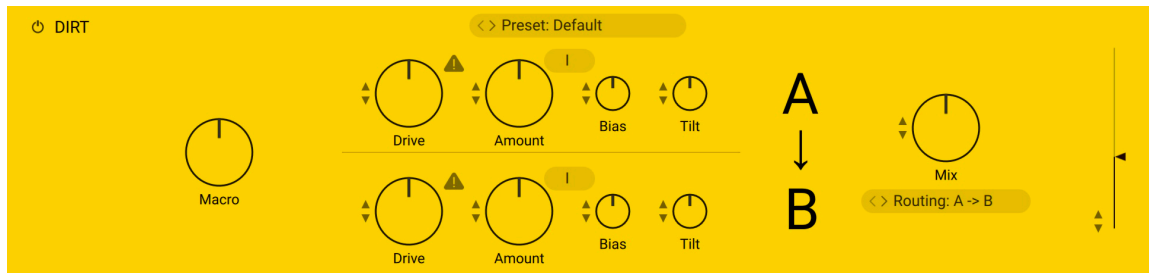
Dirt



This effect is available only in Electric Keys – Ivory and Jade.

Dirt combines two distortion units, which additionally offer control over the type of clipping behavior. The two circuit-modeled diode clipping stages (**A**, **B**) can be configured in series or parallel using the Routing control. There are three modes of distortion (**I**, **II**, **III**) which can be used independently on each stage to set the type of clipping behavior. This allows you to explore different distortion characteristics and tonal qualities from subtle to more extreme.

This creative effect contains the following parameters and controls:

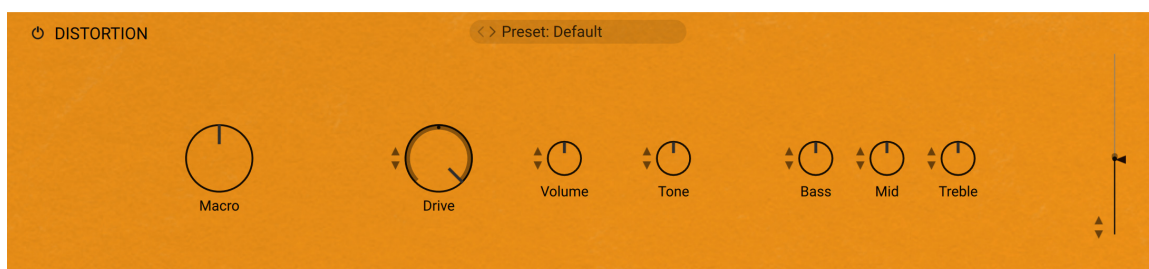


- **Drive:** Adjusts the input level, or gain. Turning **Drive** to the right increases the intensity of the distortion.
- **Safety (warning symbol):** Switches off the gain compensation that keeps consistent loudness levels. This can be used, for example, to drive a signal into the second stage at higher distortion levels.
- **Amount:** Adjusts the amount of distortion by introducing saturation in the first half of its range and wave folding in the second half. Instead of clipping the signal, wave folding folds the waveform of the signal back into itself.
- **Mode:** Selects one of three distortion modes to be used independently on stage **A** and stage **B**.
 - **I** is the most subtle mode and adds the least amount of coloring to the audio signal.
 - **II** is the default mode and is a well-balanced type of distortion with the brightest tone.
 - **III** is the most extreme mode which adds a crushed type of distortion with a dark tone.
- **Bias:** Introduces asymmetry into the signal by adding asymmetric behavior to the circuit, which produces even harmonics. This prevents the distorted audio from sounding hollow.
- **Tilt:** Applies filtering to the distorted signal. When turned to the right, low-frequency content is attenuated and high-frequency content is boosted. When turned to the left, low-frequency content is boosted and high-frequency content is attenuated.
- **Routing:** Determines how the signal is routed between stage **A** and stage **B** of the effect.
 - **A > B** serial routing configuration: The signal is fed into stage **A**, then into stage **B**.
 - **A < B** serial routing configuration: The signal is fed into stage **B**, then into stage **A**.
 - **A + B** parallel routing configuration: The signal is split into both stage **A** and stage **B** before being mixed with the **Blend** control.
- **Mix:** Blends between the dry signal and the wet signal by means of an equal-power crossfade. In **A + B** parallel routing configuration **Mix** is replaced with the **Blend** control, allowing you to blend between the output signals of stage **A** and stage **B**.

Distortion

An emulation of a classic guitar distortion effect pedal.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Drive:** adds dirt to the sound.
- **Volume:** The main volume control for this effect.
- **Tone:** turning this control clockwise accents the midrange while dropping the bass. Counterclockwise takes off the highs and boosts the bass for a warmer sound.
- **Bass:** Adjusts the low frequency response.
- **Mid:** Adjusts the midrange frequency response.
- **Treble:** Adjusts the high frequency response.
- **Output slider:** Adjusts the level of the output signal.

EQ (creative effect)

EQ is a fully parametric equalizer that can be used for a wide range of tonal alterations and corrections. Using its three bands you can boost or cut any frequency range with an adjustable bandwidth (**Q**).

This creative effect contains the following parameters and controls:

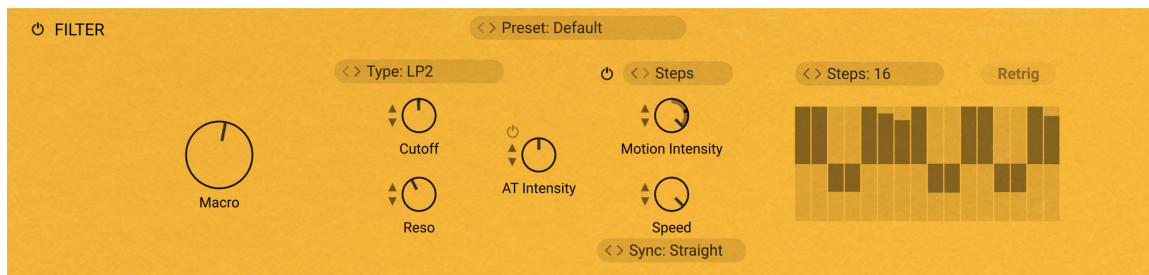


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Gain:** Adjusts the amount of boost (positive values) or cut (negative values) at the center frequency.
- **Freq:** Adjusts the center frequency at which the boost or cut will occur.
- **Q:** Adjusts the width of the frequency range that will be affected in octaves.

Filter

Filter provides a wide selection of filters with an integrated modulation unit affecting the filter's cutoff frequency.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Type selector:** Selects a filter type.
- **Cutoff:** Adjusts the filter's cutoff frequency.
- **Reso:** Adjusts the filter's resonance at the cutoff frequency.
- **AT Intensity On/Off button:** Turns Aftertouch control on or off. When on, you can modulate the filter's cutoff frequency by using Aftertouch, which makes the Filter a great tool for playing live.
- **AT Intensity knob:** Adjusts how much the Aftertouch will affect the **Cutoff** parameter. This control is bipolar: In the middle position, the Aftertouch does not affect the cutoff frequency. If you turn it to the left, the Aftertouch will decrease the cutoff frequency. If you turn it to the right, the Aftertouch will increase the cutoff frequency. As you hold the key(s) depressed, a little dot on the **Cutoff** knob indicates the current cutoff frequency.
- **Modulation On/Off button:** Activates or deactivates an automatic modulation of the filter's cutoff frequency.
- **Modulation source selector:** Selects between two modulation sources:
 - **LFO:** An adjustable low-frequency oscillator is used as modulation source.
 - **Steps:** An adjustable step sequence is used as modulation source.
- **Motion Intensity:** Adjusts the depth of the automatic cutoff modulation. This control is bipolar: In the middle position, the automatic modulation does not affect the cutoff frequency. If you turn it to the left, the modulation will decrease the cutoff frequency. If you turn it to the right, the modulation will increase the cutoff frequency. As you hold the key(s) depressed, a little dot on the **Cutoff** knob indicates the current cutoff frequency.
- **Speed:** Adjusts the speed of the modulation.
- **Sync mode selector:** Selects between four modes that determine the behavior of the **Speed** control. You can select the mode by clicking the left and right arrows next to the mode name, or open the drop-down menu by clicking the mode name.
 - **Free:** The value can be freely adjusted in milliseconds.
 - **Straight:** The value can be adjusted in even note divisions (1/16, 1/8, 1/4, etc.) relative to the tempo of the Metronome.
 - **Dotted:** The value can be adjusted in dotted note divisions (1/16d, 1/8d, 1/4d, etc.) relative to the tempo of the Metronome.
 - **Triplets:** The value can be adjusted in triplet note divisions (1/16t, 1/8t, 1/4t, etc.) relative to the tempo of the Metronome.
- **Retrig:** When this button is on, the modulation source is retriggered for each new note. When it is off, the modulation source goes on oscillating whenever notes are played.

The following controls are available when the Modulation source selector is set to **LFO**:

- **Waveform selector:** Selects a waveform for the LFO used as modulation source.
- **Waveform display:** Illustrates the selected waveform.

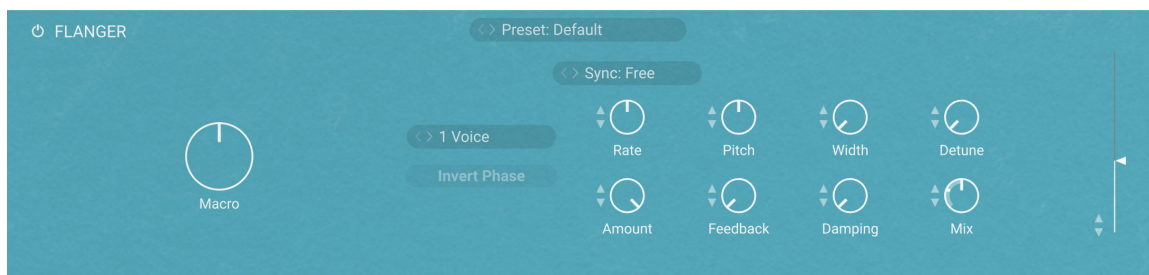
The following controls are available when the Modulation source selector is set to **Steps**:

- **Steps selector:** Selects the number of steps (from **2** to **32**) in the sequence used as modulation source.
- **Sequence display:** Lets you adjust the modulation strength on each step. Click with your mouse to adjust the height of the bars to your liking. The bars are bipolar: In the middle (zero) position, they don't affect the cutoff frequency. In the lower half of the display, the bars will decrease the cutoff frequency. In the upper half of the display, the bars will increase the cutoff frequency.

Flanger

Flanger allows for more sophisticated and extreme sounds than possible with common flangers, while staying true to the ease of use and clarity associated with these devices. It features three flanger modes that offer different approaches to a range of effects from flanging to harmonization.

This creative effect contains the following parameters and controls:



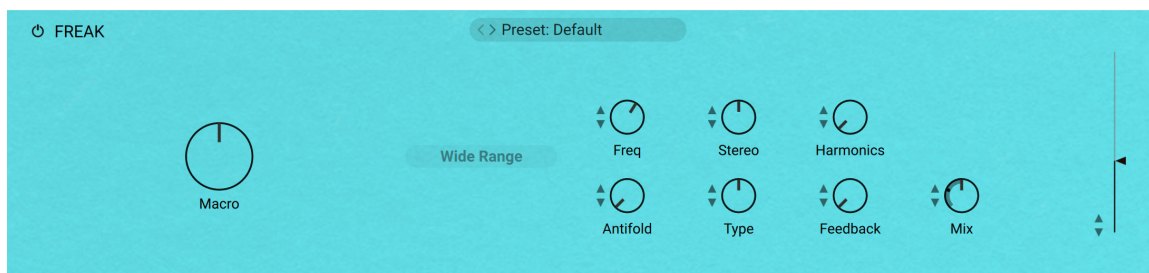
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Voice Selector:** Selects from one to four flanger voices. The additional flanger voices are added in harmonic intervals. You can select the number of voices by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Invert:** Swaps the position of the peaks and notches in the frequency spectrum by inverting the effect signal. When activated, the perceived pitch of the flanger voices is one octave lower.
- **Sync mode:** Activates synchronization of **Rate** to the musical tempo of the DAW. Three different modes are available, **Straight**, **Dotted**, and **Triplets**. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Rate:** Adjusts the frequency of the modulation. By selecting a Sync mode, the rate can be synchronized to the musical tempo.
- **Amount:** Adjusts the amount of modulation, adding movement to the effect.
- **Pitch:** Adjusts the fundamental frequency of the first flanger voice in semitones, effectively shifting the peaks and notches of all flanger voices in the frequency spectrum.
- **Feedback:** Adjusts the level of the feedback signals from the outputs of the flanger voices to their inputs, creating a more resonant and metallic sound.

- **Width:** Creates a wide and lively stereo image by adding a phase offset to the modulation between the left and right stereo channels. Additionally, a special type of cross-feedback is introduced, further animating the stereo image as **Feedback** is increased.
- **Damping:** Attenuates the high frequency content of the feedback signals from the outputs of the flanger voices to their inputs, allowing for soft sounds even at high **Feedback** settings.
- **Detune:** Alters the pitch of each individual flanger voice in a range of approximately +/- 60 cent. This creates a rich and lively sound similar to the effect of detuning oscillators on a synthesizer. **Detune** is especially useful when Chord is set to **Unison**.
- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.
- **Output slider:** Adjusts the level of the output signal.

Freak

Freak combines three amplitude modulation techniques: basic amplitude modulation, ring modulation, and frequency shifting. It is based on a model of an analog diode ring circuit that produces rich harmonic overtones and textures.

This creative effect contains the following parameters and controls:



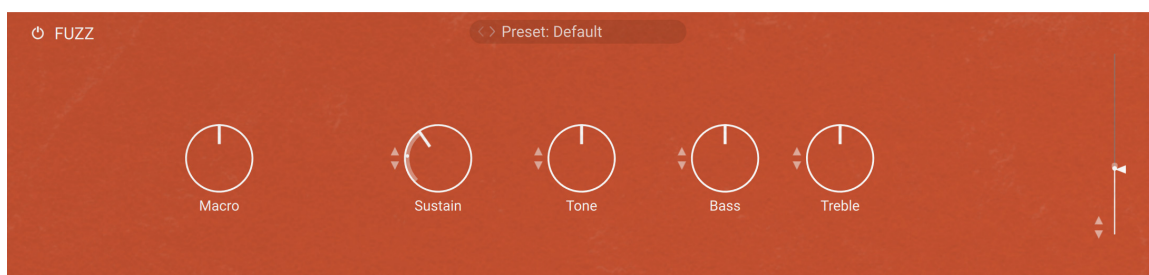
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Range:** Activates a coarse range of -5000 Hz to +5000 Hz. When deactivated, **Freq** has a fine range of -200 Hz to +200 Hz.
- **Freq:** Adjusts the rate of the internal sine wave modulation used by the amplitude modulation, allowing you to change the frequency of the sidebands created in the frequency spectrum.
- **Antifold:** Reduces the amount of sidebands folding over 0 Hz, producing a cleaner sound in the low-frequency spectrum. By increasing **Antifold**, thinner sounding distortion effects with a less tonal quality can be achieved.
- **Stereo:** Creates a wide stereo image by adding a phase offset to the modulation applied to the left and right stereo channels.
- **Type:** Morphs between three different amplitude modulation techniques, basic amplitude modulation), ring modulation), and frequency shifting.
- **Harmonics:** Adjusts the amount of harmonic overtones produced by the model of an analog diode ring circuit used to implement the different amplitude modulation techniques in Freak.

- **Feedback:** Adjusts the level of the feedback signal from the effect's output to its input. This increases the amount of frequencies, or sidebands, created by the amplitude modulation. When the FX Mode is set to **Radio**, **Feedback** additionally controls the amount of noise added to the signal.
- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.
- **Output slider:** Adjusts the level of the output signal.

Fuzz

Fuzz models the sound of a classic distortion pedal suitable for 1970s Rock guitars. Its sound character is dirty with a lot of grunge.

This creative effect contains the following parameters and controls:

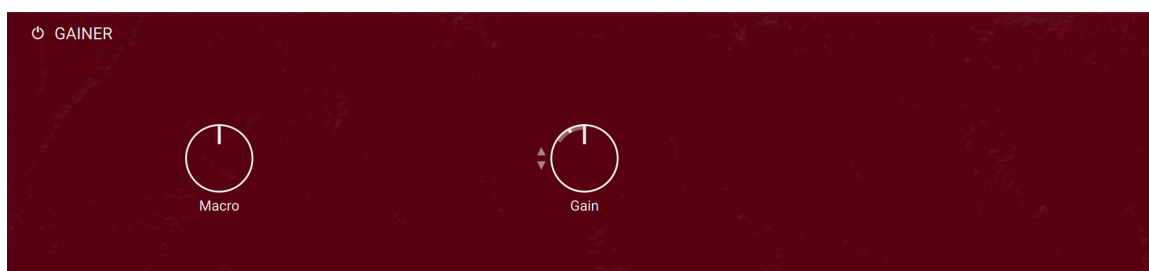


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Sustain:** Adjusts the input level, or gain. Turning the control to the right increases the intensity of the distortion.
- **Tone:** Adjusts the frequency response. Turning the control to the left emphasizes high frequencies. Turning the control to the right emphasizes low frequencies.
- **Bass:** Adjusts the low-frequency response.
- **Treble:** Adjusts the high-frequency response.
- **Output slider:** Adjusts the level of the output signal.

Gainer

Gainer boosts or attenuates the signal level. You can use it for gain staging between various effects in your signal chain.

This creative effect contains the following parameters and controls:

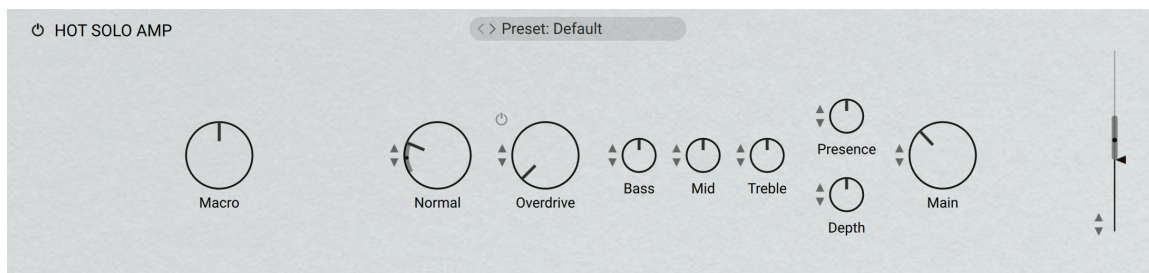


- **On/Off:** Turns the effect on or off.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Gain:** The amplification or attenuation factor that will be applied to the signal in dB.

Hot Solo Amp

Hot Solo Amp models the sound of guitar amp that is considered a true modern classic. It features two separate channels, the low-gain **Normal** channel and the high-gain **Overdrive** channel.

This creative effect contains the following parameters and controls:

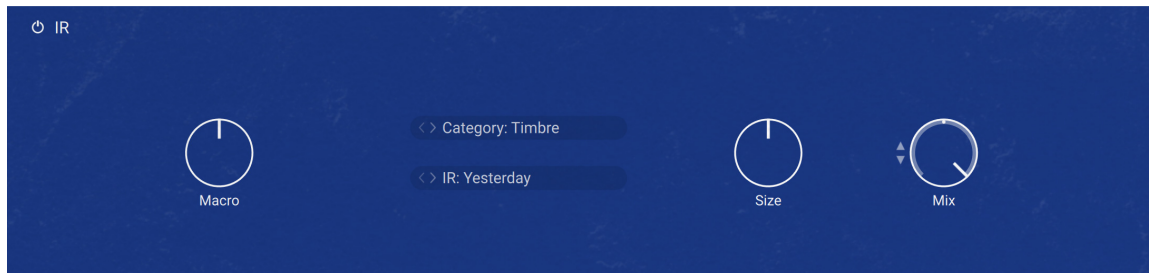


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Normal:** Adjusts the input level, or gain, of the Normal channel.
- **Overdrive On/Off:** Switches between the **Normal** and the **Overdrive** channel.
- **Overdrive:** Adjusts the input level, or gain, of the Overdrive channel.
- **Bass:** Adjusts the low-frequency response.
- **Mid:** Adjusts the mid-frequency response.
- **Treble:** Adjusts the high-frequency response.
- **Presence:** Boosts upper mid-frequency content.
- **Depth:** Boosts low-frequency content.
- **Main:** Adjusts the output level of the Component.
- **Output slider:** Adjusts the level of the output signal.

IR

The IR effect uses impulse responses of various creative sets to replicate their acoustical behavior for use with the piano signals.

This creative effect contains the following parameters and controls:



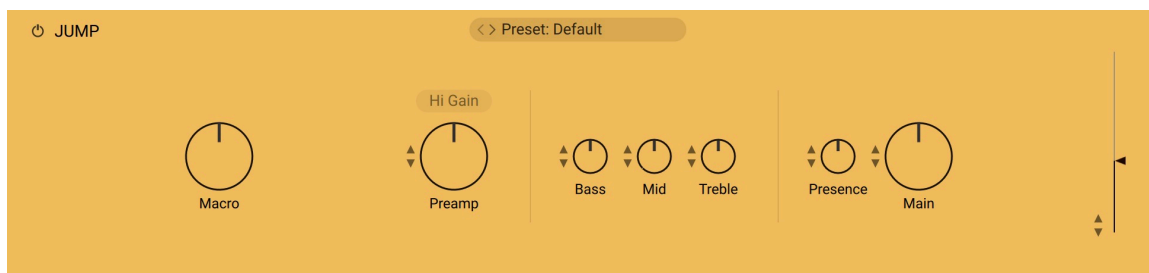
- **On/Off:** Turns the effect on or off.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Category selector:** Selects the category for the impulse response files. Available categories are **Timbre**, **Resonance**, **Mystique**, and **Rhythmic**.
- **IR selector:** Selects an impulse response from the category selected above.
- **Size:** Artificially compresses or stretches the impulse response in time.
- **Mix:** Adjusts the mix between the original and the processed signals.

Jump

i This effect is available only in Electric Keys – Ivory and Jade.

Jump models the sound of a clean British amplifier that was introduced at the beginning of the 1980s and became a staple of hard rock and heavy metal bands in that era. It is a variant of the Lead 800 amplifier with slightly less gain for a smoother sound.

This creative effect contains the following parameters and controls:



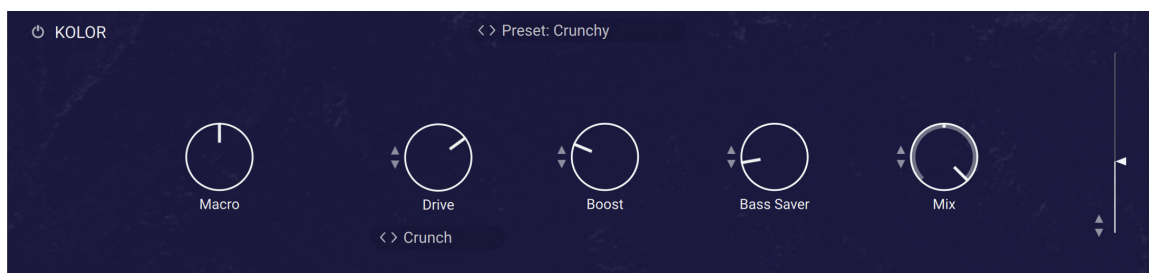
- **High Gain:** Switches between two modes for the amplifier's gain stage. In **Low** mode, the amplifier's gain is moderate, resulting in a smoother sound. In **High** mode, the gain is significantly increased for a more overdriven sound.
- **Preamp:** Adjusts the input level, or gain, of the amplifier. Turning **Preamp** to the right adds saturation and distortion to the signal.
- **Bass:** Adjusts the low-frequency response.
- **Mid:** Adjusts the mid-frequency response.
- **Treble:** Adjusts the high-frequency response.
- **Presence:** Boosts upper mid-frequency content.
- **Main:** Adjusts the output level of the Component.

Kolor

i This effect is available only in Electric Keys – Ivory and Jade.

Kolor features a selection of 10 distortion algorithms that allow you to enhance and distort your sound in various ways. Most of these distortion algorithms have been modeled using NI's ICM (Intelligent Circuit Modeling), with the addition of algorithms from iZotope Trash 2. In addition, when working with bass-heavy signals, you can use the **Bass Saver** control to adjust how strongly the distortion is applied to low frequencies.

This creative effect contains the following parameters and controls:

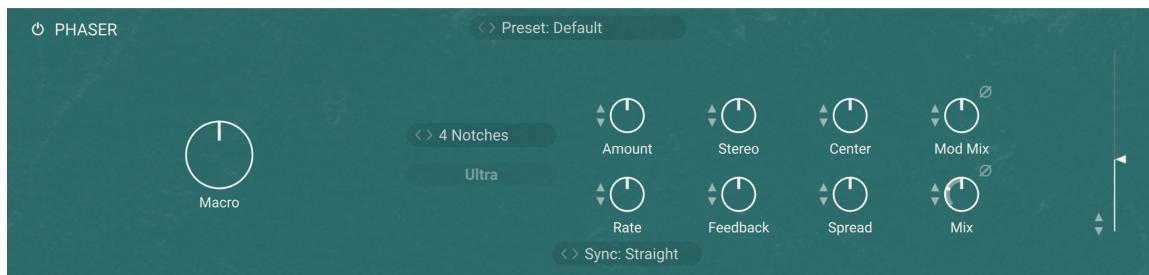


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Algorithm Selector:** Selects one of 10 different distortion algorithms that determine the basic sound character of the effect. The selection includes ICM models as well as algorithms taken from iZotope Trash 2.
- **Drive:** Adjusts the input level, or gain. Turning **Drive** to the right increases the intensity of the distortion.
- **Boost:** Adjusts an amount of extra gain added to the **Drive** control for a more intense distortion sound.
- **Bass Saver:** Attenuates the low-frequency contents before the distortion stage, with automatic compensation after the distortion stage, effectively adjusting how strongly the distortion is applied to low frequencies.
- **Mix:** Blends between the input signal and the effect signal.
- **Output slider:** Adjusts the level of the output signal.

Phaser

Phasis is a new take on the concept of the phaser effect with additional features that have been carefully chosen to allow for more sophisticated and extreme sounds than possible with common phasers, while staying true to the ease of use and clarity associated with these devices. Phasis features a scalable amount of all-pass filters, producing up to twelve pairs of peaks and notches in the frequency spectrum.

This creative effect contains the following parameters and controls:



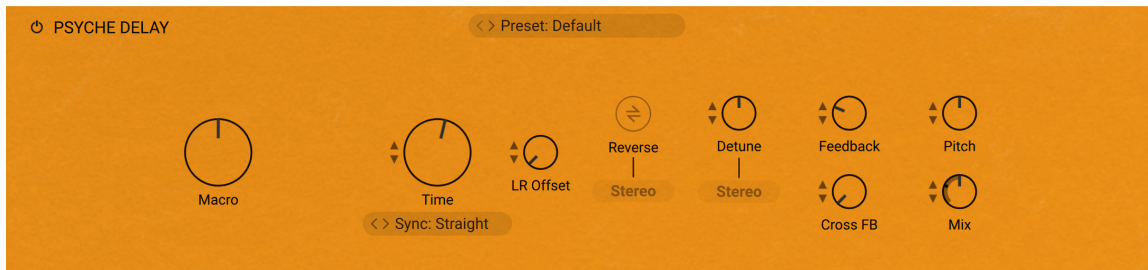
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Notches:** Sets the number of peaks and notches in the frequency spectrum. You can select the number of peaks and notches by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Ultra:** Extends the range of **Rate** and **Center**, allowing for more extreme modulation up audio frequencies. This can add new harmonic content to the input signal, similar to the sounds possible with FM synthesis.
- **Amount:** Adjusts the amount of modulation, adding movement to the effect. The modulation can be distributed between **Center** and **Spread** using the **Mod Mix** slider.
- **Rate:** Adjusts the frequency of the modulation. By selecting a Sync mode, the rate can be synchronized to the musical tempo.
- **Sync mode:** Activates synchronization of **Rate** to the musical tempo of the DAW. Three different modes are available, **Straight**, **Dotted**, and **Triplets**. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Stereo:** Creates a wide and lively stereo effect by adding a phase offset to the modulation applied to the the left and right stereo channels. In center position, the phasing effect does not alter the stereo image. When turning the knob to the left, the phasing effect appears to move from right to left. When turning the knob to the right, the phasing effect appears to move from the left to right. **Stereo** does not have an effect if **Amount** is set to 0.
- **Feedback:** Adjusts the amount of feedback, or resonance, applied to the all-pass filters that create the phasing effect. Turning up **Feedback** makes the peaks and notches in the frequency spectrum more pronounced.
- **Center:** Shifts the peaks and notches in the frequency spectrum by changing the frequencies of the all-pass filters that create the phasing effect (relative to the **Center** frequency).
- **Spread:** Adjusts the density of the peaks and notches in the frequency spectrum. Turning the knob to the left moves the peaks and notches closer to each other. Turning the knob to the right moves the peaks and notches further apart from each other.
- **Spread Modulation Polarity:** Inverts the polarity of the modulation applied to **Spread**, hence reversing its effect in relation to the modulation applied to **Center**.
- **Mod Mix:** Distributes the modulation between **Center** and **Spread**. Moving the slider to the left increases the amount of modulation applied to **Center**, moving the slider to the right increases the amount of modulation applied to **Spread**. In center position, the same amount of modulation is applied to both **Center** and **Spread**.
- **Invert:** Swaps the position of the peaks and notches in the frequency spectrum by inverting the effect signal.

- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.
- **Output slider:** Adjusts the level of the output signal.

Psyche Delay

Psyche Delay is a stereo delay effect that produces a range of atmospheric ambient echoes and reverse effects reminiscent of the so-called backwards tape sound of the 1960s.

This creative effect contains the following parameters and controls:

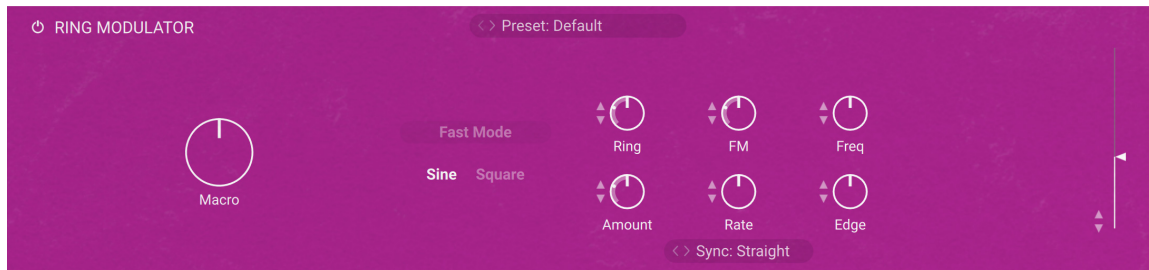


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Time:** Adjusts the delay time. When Sync is activated, **Time** is set in note lengths relative to the tempo of the Metronome.
- **Sync mode:** Activates synchronization of **Time** to the musical tempo of the DAW. Three different modes are available, **Straight**, **Dotted**, and **Triplets**. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **LR Offset:** Enhances the stereo image of the delay by adding a timing offset between the left and right channels.
- **Reverse:** Reverses the playback of subsequent delay repeats.
- **Stereo Reverse:** Removes the reverse effect from the right stereo channel, thus only delay repeats on the left channel are reversed.
- **Detune:** Adjusts the pitch of the echo repeats on the left stereo channel in the range of -50 to +50 cents. Combined with feedback and cross-feedback you can use this to create progressively detuned echo cascades.
- **Stereo Detune:** Applies the **Detune** effect to both the left and right stereo channel.
- **Feedback:** Adjusts the amount of feedback. Turning **Feedback** to the right increases the amount of delay repetitions.
- **Cross FB:** Adjusts the amount of cross-feedback, which feeds the left channel output back into the right channel input and vice versa.
- **Pitch:** Adjusts the pitch of the echo repeats in the range of -12 to +12 semitones. Combined with feedback you can use this to create progressively harmonized echo cascades.
- **Mix:** Blends between the input signal and the effect signal.

Ring Modulator

Ring Modulator is an effect based on ring modulation, a special type of amplitude modulation. It produces sidebands in the frequency spectrum that break up the harmonic structure of the sound and give it a metallic sounding character. When using a low-frequency modulation signal, you can achieve tremolo effects. Additionally, the **FM** control enables you to apply phase modulation to the input signal (**FM**).

This creative effect contains the following parameters and controls:



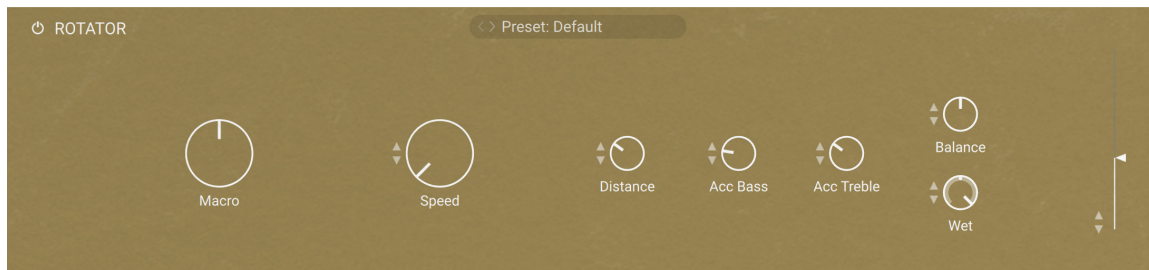
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Fast Mode:** Switches between two frequency ranges for the internal modulation oscillator. When activated, the effect produces sidebands in the frequency spectrum. When deactivated, it produces tremolo effects.
- **Sine/Square:** Switches the LFO's waveform between sine and square, producing either soft or sudden changes of the internal modulation oscillator's frequency.
- **Ring:** Adjusts the amount of ring modulation applied to the input signal using the internal modulation oscillator.
- **FM:** Adjusts the amount of phase modulation applied to the input signal using the internal modulation oscillator.
- **Freq:** Adjusts the frequency of the internal modulation oscillator, effectively moving the sidebands in the frequency spectrum. The frequency range depends on the setting of the **Fast Mode** switch.
- **Amount:** Adjusts the amount of modulation applied to the frequency of the internal modulation oscillator using the LFO.
- **Rate:** Adjusts the frequency of the LFO that can be used to apply modulation to the frequency of the internal modulation oscillator. To synchronize the rate to your host or Master Editor tempo, click the Rate parameter's unit display and choose a note length value from the drop-down list.

- **Sync mode selector:** Selects between four modes that determine the behavior of the **Rate** control. You can select the mode by clicking the left and right arrows next to the mode name, or open the drop-down menu by clicking the mode name.
 - **Free:** The value can be freely adjusted in milliseconds.
 - **Straight:** The value can be adjusted in even note divisions (1/16, 1/8, 1/4, etc.) relative to the tempo of the Metronome.
 - **Dotted:** The value can be adjusted in dotted note divisions (1/16d, 1/8d, 1/4d, etc.) relative to the tempo of the Metronome.
 - **Triplets:** The value can be adjusted in triplet note divisions (1/16t, 1/8t, 1/4t, etc.) relative to the tempo of the Metronome.
- **Edge:** Changes the waveform of the internal modulation oscillator. Turning the control to the right adds harmonics, resulting in a more aggressive sound of the ring modulation.
- **Output slider:** Adjusts the level of the output signal.

Rotator

Rotator realistically simulates the sound of rotating speaker cabinets, which are commonly associated with drawbar organs that became popular in rock music of the 60s and 70s.

This creative effect contains the following parameters and controls:

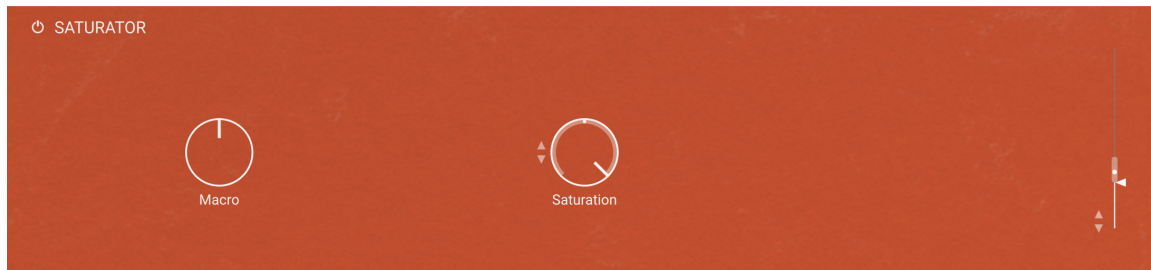


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Speed:** Although this parameter appears as a knob in order to facilitate automating, it really only has 2 positions — Slow and Fast. A change of this setting realistically simulates the acceleration or braking of the rotor.
- **Distance:** Controls the simulated distance between the cabinet and the pickup microphones. A closer distance results in a wider stereo panorama.
- **Acc Bass:** Adjusts how quickly the rotor of the bass part of the cabinet will react to speed changes.
- **Acc Treble:** Adjusts how quickly the rotor of the treble part of the cabinet will react to speed changes.
- **Balance:** Controls the relative levels of the cabinet's treble and bass parts.
- **Wet:** Adjusts the level of the effect signal.
- **Output slider:** Adjusts the level of the output signal.

Saturator

Saturator allows you to recreate the effect of tape saturation, which increases the loudness of your signal and adds harmonic content.

This creative effect contains the following parameters and controls:

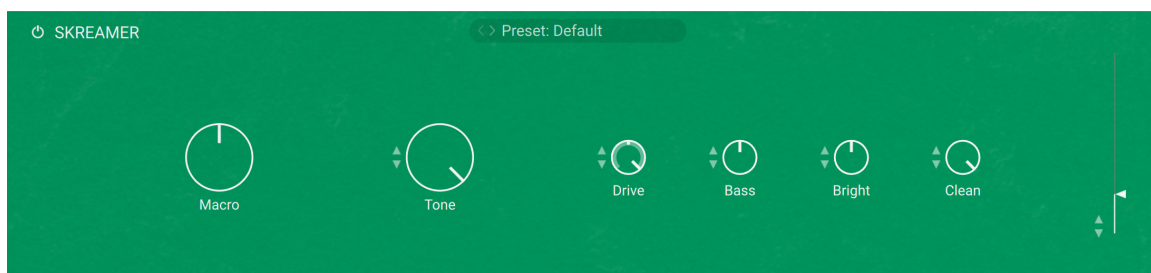


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Saturation:** Adjusts the gain, which increases the intensity of the saturation effect.
- **Output slider:** Adjusts the level of the output signal.

Skreamer

Skreamer is a warm and smooth overdrive effect.


This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Tone:** Controls the brightness of the sound. Turning this knob clockwise will result in a more pronounced top-end, which works great on bright, screaming leads and biting rhythms. Turning it counter-clockwise results in a mellower, darker sound.
- **Drive:** Adjusts the amount of distortion.
- **Bass:** Adjusts the low frequency gain.
- **Bright:** Adjusts the high frequency gain.

- **Clean:** Blends clean signal into the distorted tone. At **0.0 %**, only the distorted signal is audible, while at **100.0 %**, equal amounts of distorted and clean signal are mixed.
- **Output slider:** Adjusts the level of the output signal.

Solid EQ

 This effect is available only in Electric Keys – Ivory and Jade.

Solid EQ models the channel equalizer section of a highly acclaimed mixing desk from the 1970s, including two semi-parametric bands (low frequencies and high frequencies) and two fully parametric bands (low-mid frequencies and high-mid frequencies).

This creative effect contains the following parameters and controls:




- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Output slider:** Adjusts the level of the output signal.

The four frequency bands are organized in ascending order, from left to right: low frequencies, low-mid frequencies, high-mid frequencies, and high frequencies. Each frequency bands provides three controls:

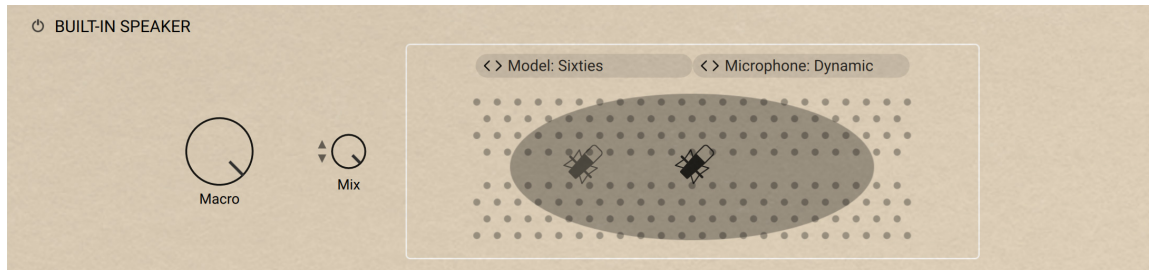
- **Freq:** Adjusts the filter frequency of the band.
- **Gain:** Adjusts the amount of attenuation or boost applied to the frequency band.
- **Bell** (low and high frequency bands only): Switches between two filter types for the band. When **Bell** is off, a shelving filter evenly attenuates or boosts the frequencies beyond the filter frequency as set with **Freq**. When **Bell** is on, a bell filter attenuates or boosts the frequencies around the filter frequency.
- **Q** (low-mid and high-mid frequency bands only): Adjusts the Q factor, or resonance, of the band filter. The Q factor determines the width of the frequency band around the filter frequency that is attenuated or boosted.

Built-in Speaker

 This effect is available only in Electric Keys – Ivory and Jade.

Built-in Speaker uses impulse responses to model the sound of the loudspeakers found in three versions of the Ivory and Jade's famous ancestor.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Mix:** Adjusts the mix between the original and the processed signals.
- **Model selector:** Selects the speaker from three different versions of the original keyboard: **Sixties**, **Seventies**, and **Seventies Bass**. You can select a speaker by clicking the left and right arrows, or open the drop-down menu by clicking the name.
- **Microphone selector:** Selects between the **Dynamic**, **Condenser**, and **Ribbon** microphone types for the recording. You can select a microphone type by clicking the left and right arrows, or open the drop-down menu by clicking the type name.
- **Microphone position:** Switches between two different microphone positions for the recording, either at the center of the speaker or at its edge.

Stereo Modeler

Stereo Modeler allows you to control stereo width of your signal, change the panning, and create a pseudo-stereo signal from mono sources.

This creative effect contains the following parameters and controls:



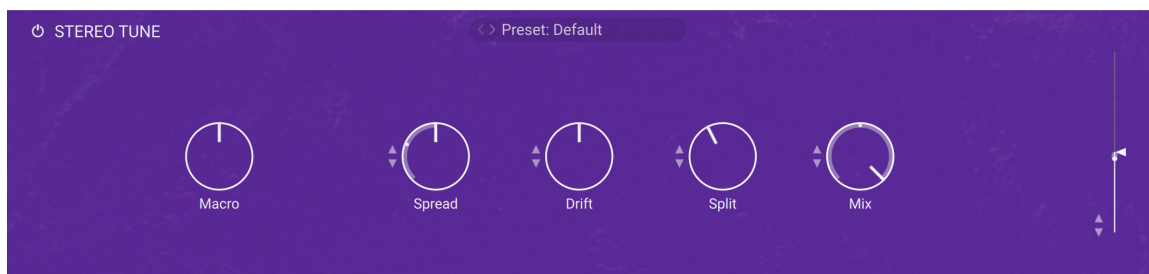
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).

- **Pseudo Stereo:** When activated, the module uses a pseudo-stereo algorithm to create a stereo signal from a mono source. This feature should only be used with mono signals and tends to create mono-incompatible sounds, which can disappear from a mix when it's being played back in mono.
- **Spread:** Reduces or expands the signal's stereo base. Turning the knob far left, will sum the stereo signals to mono. Turning the knob right to produce positive values will result in an artificial widening of stereo sources.
- **Pan:** This control allows you to place your signal within the stereo field. It works exactly like the Pan control of the Amplifier module.
- **Output slider:** Adjusts the level of the output signal.

Stereo Tune

Stereo Tune is a widening effect. It produces a wide and lively stereo image.

This creative effect contains the following parameters and controls:

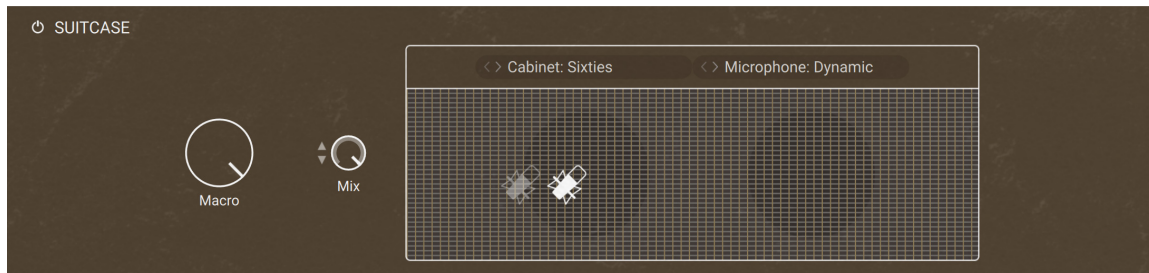


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Spread:** Adjusts the stereo width from mono to full stereo.
- **Drift:** Adjusts stereo detuning of the input signal. The left and right stereo channels are tuned at different frequencies to create a wide stereo image.
- **Split:** Adjusts the crossover frequency of the effect. Frequency content below this frequency remains unaltered.
- **Mix:** Blends between the input signal and the effect signal. When the knob is turned fully left, only the dry input signal is heard.
- **Output slider:** Adjusts the level of the output signal.

Suitcase

Suitcase uses impulse responses to model the sound of the speakers found in three generations of suitcase cabinets of the Diamond and Phoenix' famous ancestor.

This creative effect contains the following parameters and controls:

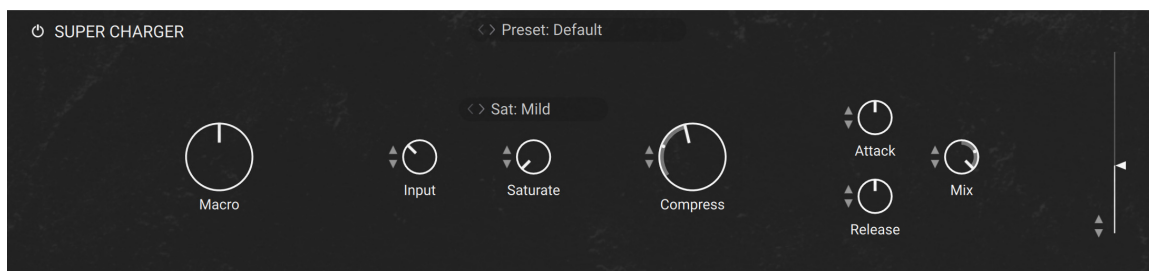


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Mix:** Adjusts the mix between the original and the processed signals.
- **Cabinet selector:** Selects one of three different versions of the suitcase cabinet, **Sixties**, **Seventies**, and **Eighties**. You can select a cabinet by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Microphone selector:** Selects between the **Dynamic**, **Condenser**, and **Ribbon** microphone types for the recording. You can select a microphone type by clicking the left and right arrows, or open the drop-down menu by clicking the type name.
- **Microphone position:** Switches between two different microphone positions for the recording, either at the center of the speaker or at its edge.

Super Charger

Super Charger offers high-end tube compression emulation, inspired by boutique hardware. It is a particularly musical compressor, with different flavors of saturation and spectral shaping that allow you to apply subtle harmonic and spatial enhancement as well as heavy and aggressive tube drive.

This creative effect contains the following parameters and controls:



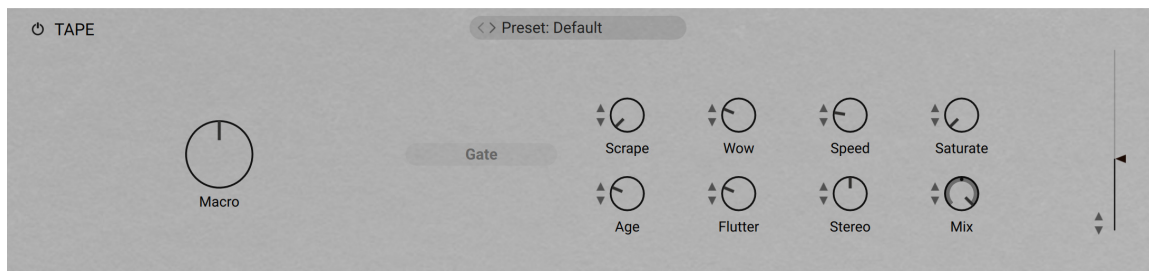
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Input:** Adjusts the input gain to the compressor in dB. The ideal setting of the **Input** is indicated by the **Input Level Meter**.

- **Saturation Mode:** Selects from three modes (Mild, Moderate, Hot) that determine the type of **Saturation** applied to the signal. **Mild** mode adds coloration to the signal whilst retaining a clean sound. **Moderate** mode adds more noticeable harmonics, and **Hot** mode applies maximum saturation and produces audible distortion.
- **Saturate:** Applies saturation to the signal. Turn the control right to apply more saturation to the signal. The type of saturation is determined by the selected **Saturation Mode**.
- **Compress:** Determines the amount of compression applied to the input signal. The higher the value, the more compression is applied to the input signal.
- **Attack:** Determines how fast the compressor reacts to incoming signals. Increasing this parameter will add more punch and decreasing it will reduce sharp attacks.
- **Release:** Adjusts the length of compressor's **Release** phase, which determines how long it takes for the compression to stop after the input signal falls below the **Threshold** level. Typical values range from 50 to 250 ms.
- **Mix:** Controls the dry/wet mix of the compressor. This can be used to create a parallel compression style routing, which increases the quieter signals rather than reducing the louder ones. When the **Mix** control is set to 0%, only the uncompressed (dry) signal will be heard, and at 100%, only the compressed signal will be heard. Settings between the 0% and 100% are a mix of both signals.
- **Output slider:** Adjusts the level of the output signal.

Tape

Tape emulates the sound of analog tape machines, characterized by wow and flutter, saturation, noise, and a limited high-frequency response. You can use it to apply classic lo-fi effects, particularly when playing sustained notes, pads and melodies.

Tape contains the following controls:



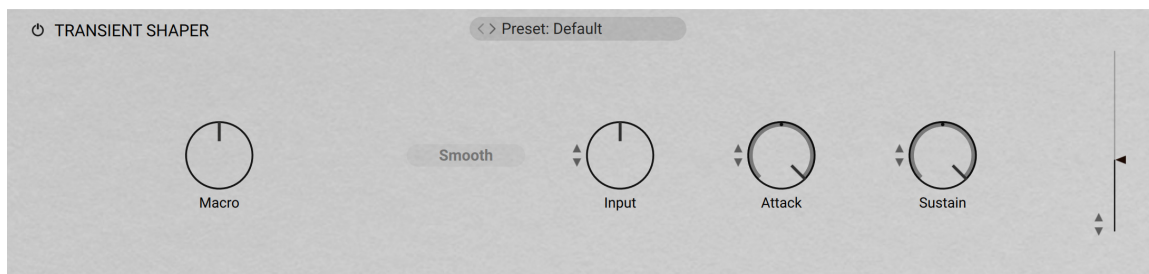
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Gate:** Toggles the noise gate on or off. When enabled it will remove low level tape hiss noise one second after receiving the last input signal.
- **Scrape:** Adjusts the amount of high-frequency scraping, which occurs when the tape vibrates as it passes over the playback head.
- **Wow:** Adjusts the amount of wow, a slow fluctuation in pitch caused by sticky tape and worn-out tape transport.
- **Speed:** Adjusts the rate of the wow and flutter modulation.

- **Saturate:** Adjusts the amount of tape saturation from a clean sound to overdrive.
- **Age:** Enhances the characteristics of an aging tape by reducing high-frequency content and introducing tape hiss.
- **Flutter:** Adjusts the amount of flutter, a fast fluctuation in pitch caused by a bent capstans and faulty motor parts.
- **Stereo:** Adjusts the stereo width of **Wow** and **Flutter** by adding a phase offset to the modulation applied to the the left and right stereo channels.
- **Mix:** Blends between the input signal and the effect signal by means of an equal-power crossfade.
- **Output slider:** Adjusts the level of the output signal.

Transient Shaper

Transient Shaper controls the attack and sustain of a sound. Instead of following the amplitude of the sound like a traditional compressor, it follows the general envelope and is thus not as susceptible to changes of input gain. It is best used on sounds with fast attacks, like percussion, pianos or guitars.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Smooth:** Transient Master is designed mainly to work on drums or percussive material, so certain input signals (for example: an acoustic guitar) may not work ideally in the default mode, so try switching this button on if you are encountering problems.
- **Input:** Controls the input gain to the effect.
- **Attack:** Adjusts the scaling of the attack portion of the input signal's volume envelope. Turning the knob right (0% to 100%) will add more punch, and turning the knob left (0% to -100%) will reduce sharp attacks.
- **Sustain:** Controls the scaling of the sustain portion of the input signal's volume envelope. Increasing this parameter will add more body to the sound and decreasing it will reduce the sound's tail.
- **Output slider:** Adjusts the level of the output signal.

Twang Amp

Twang Amp simulates the rich tube sound of classic guitar amps.

This creative effect contains the following parameters and controls:



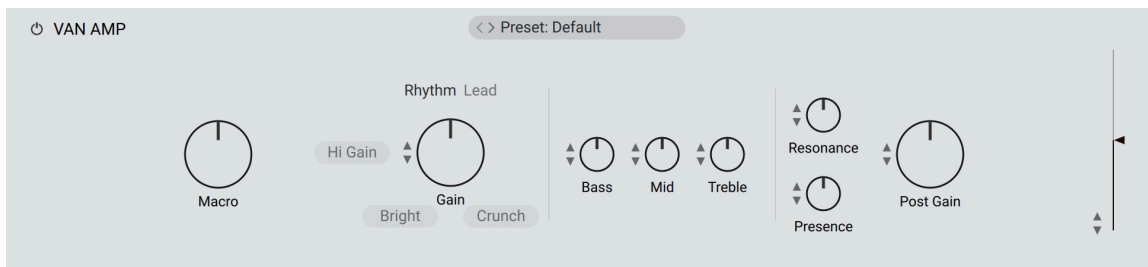
- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Bright:** A tonal option which increases the high frequency content of the signal.
- **Treble:** Adjusts the high-frequency response.
- **Mid:** Adjusts the mid-frequency response.
- **Bass:** Adjusts the low-frequency response.
- **Volume:** Controls the input level. In contrast to the Output knob, which merely adjusts the overall level of the module, this knob works like the gain control of a guitar amp and affects the amount of distortion.
- **Output slider:** Adjusts the level of the output signal.

Van Amp

i This effect is available only in Electric Keys – Ivory and Jade.

Van Amp models the sound of a benchmark high-gain amplifier. It provides raw and edgy guitar tones that are suitable for a wide range of heavy guitar music.

This creative effect contains the following parameters and controls:



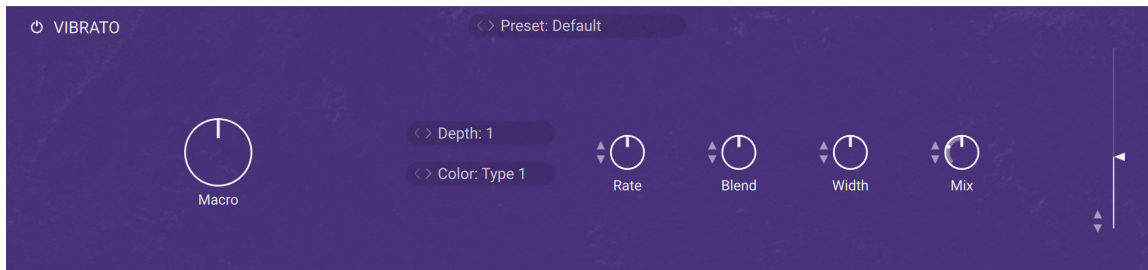
- **Hi Gain:** Increases the gain for a more overdriven sound.
- **Lead/Rhythm:** Switches between the **Lead** and the **Rhythm** channel. The **Rhythm** channel has a clean sound, with the option to add a high amount of distortion using **Crunch** mode. The **Lead** channel offers even more gain.
- **Gain:** Adjusts the input level, or gain, of the amplifier. Turning **Gain** to the right adds saturation and distortion to the signal.

- **Bright:** Boosts high-frequency content in the Rhythm channel.
- **Crunch:** Adds a high amount of distortion in the Rhythm channel.
- **Bass:** Adjusts the low-frequency response.
- **Mid:** Adjusts the mid-frequency response.
- **Treble:** Adjusts the high-frequency response.
- **Resonance:** Adjusts the character of the amplifier's low-frequency response.
- **Presence:** Boosts upper mid-frequency content.
- **Post Gain:** Adjusts the output level of the Component.

Vibrato

Vibrato/Chorus models the sound of the vibrato and chorus effects found on a classic electric organ. The effects were originally produced by an innovative circuit that combined electronic and mechanical components, producing an incredibly rich sound.

This creative effect contains the following parameters and controls:



- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Depth:** Selects one of six modes that determine the intensity of the effect. The intensity increases with every mode from top to bottom. Modes 4, 5, and 6 require more processing power. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Color:** Selects one of three different modes that determine the basic sound character of the effect. Each mode has a distinct frequency response and different flavor of modulation. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Rate:** Adjusts the frequency of the modulation. When Sync is activated, **Rate** is set in note lengths relative to the tempo of the Metronome.
- **Blend:** Blends between the vibrato and the chorus effect.
- **Width:** Adjusts the width of the stereo widening effect.
- **Mix:** Blends between the input signal and the effect signal.
- **Output slider:** Adjusts the level of the output signal.

Wah

Wah models the sound of the most popular wah-wah pedal of all time. The wah-wah is a classic filter effect that moves a resonant filter peak in the frequency spectrum. The **Auto Wah** and **LFO** enable you to modulate the wah-wah effect for lively sound effects.

This creative effect contains the following parameters and controls:

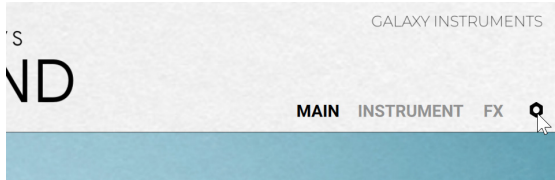


- **On/Off:** Turns the effect on or off.
- **Preset selector:** Selects from various predefined settings for the effect. You can select a preset by clicking the left and right arrows, or open the drop-down menu by clicking the preset name.
- **Macro:** This knob can modulate various parameters of the effect, and itself be assigned to any Macro of your instrument. For more information on how to use the Macro knob, refer to [Controlling parameters in creative effects](#).
- **Pedal:** The pedal control is used to control the wah-wah frequency. Decreasing the value will lower the frequency and increasing the value will raise the frequency.
- **Auto Wah:** Activates an envelope follower that modulates the wah-wah frequency according to the level contour of the input signal.
- **Attack:** Adjusts the attack time of the envelope follower that can be activated using **Auto Wah**.
- **Release:** Adjusts the release time of the envelope follower that can be activated using **Auto Wah**.
- **LFO:** Activates a low-frequency oscillator that modulates the wah-wah frequency periodically.
- **Retrigger:** Activates retriggering of the LFO modulation applied to the wah-wah effect. Retriggering will cause the LFO waveform to restart every time a note is played.
- **Intensity:** Adjusts the amount of LFO modulation applied to the wah-wah effect.
- **Sync mode:** Activates synchronization of **Speed** to the musical tempo of the DAW. Three different modes are available, **Straight**, **Dotted**, and **Triplets**. You can select a mode by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Speed:** Adjusts the rate of the LFO modulation applied to the wah-wah effect.
- **Waveform selector:** You can select a waveform by clicking on the left and right arrows, or open the drop-down menu by clicking on the name.
- **Output slider:** Adjusts the level of the output signal.

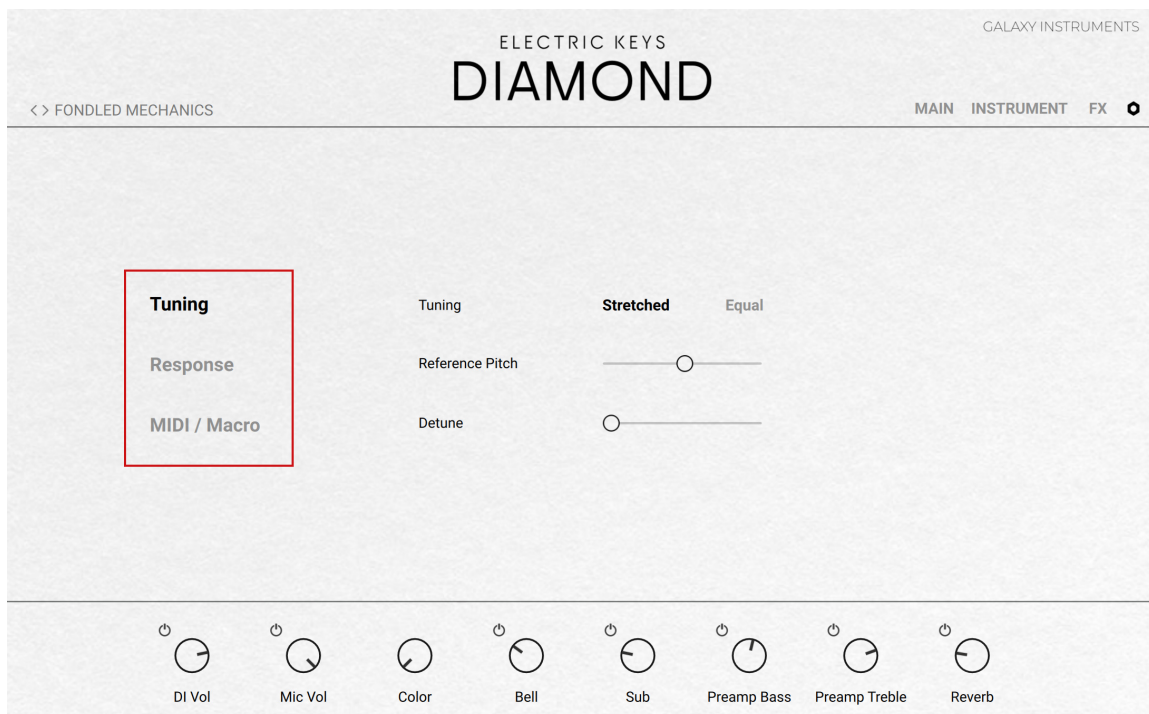
9. Settings page

The Settings page lets you adjust tuning, response, and MIDI control settings for your instrument.

- Click the nut icon at the top right of the instrument to open the Settings page.



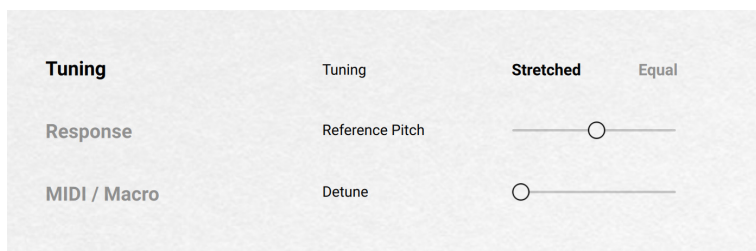
The Settings page includes various panels, which you can select by clicking the **Tuning**, **Response**, and **MIDI / Macro** tabs on the left:



The following sections describe the controls found on each of these panels.

Tuning panel

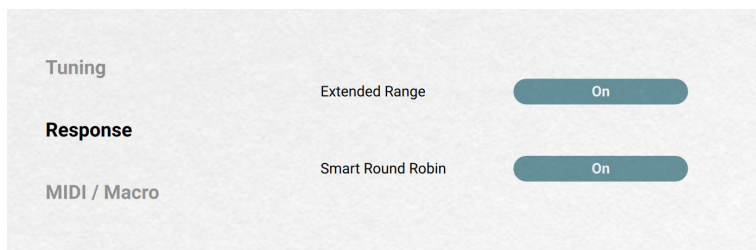
The **Tuning** panel of the Settings page provides the following controls:



- **Tuning:** Switches the tuning system (or temperament) of the instrument between **Stretched** (default setting) and **Equal**. Stretched tuning accommodates the natural “inharmonicity” of metal strings, which stretch harmonics beyond the tone generators’ ideal frequencies. Therefore, to make the instrument sound more harmonically pleasing (or “musical”), higher notes are stretched upwards. You can otherwise switch to **Equal** temperament, which is the most common tuning system used in Western music.
- **Reference Pitch:** Adjusts the instrument’s basic pitch, from 436 Hz to 444 Hz.
- **Detune:** Slightly detunes each key differently. At full left, the keyboard is perfectly tuned. The further you drag the slider to the right, the more the keys will go out of tune.

Response panel

The **Response** panel of the Settings page provides the following controls:

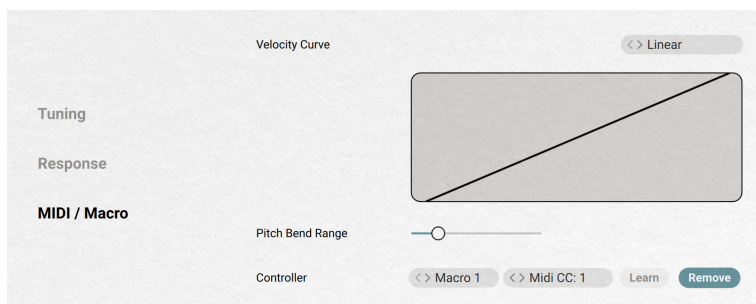


- **Extended Range:** Extends the key range from 73 to 88 keys. The original piano had 73 keys. Activating the **Extended Range** button adds keys in the lower and upper ends so that you can play your instrument with every key of a full-size keyboard.
- **Smart Round Robin:** Activates or deactivates Smart Round Robin. The Smart Round Robin feature keeps track of which sample was played, and when. If the same sample is triggered twice in a short time, another sample will be used instead to give the notes realistic variations and avoid unpleasant “machine-like” note repetitions.


i In contrast to the common round robin function found in other instruments, the Smart Round Robin feature delivers the exact same performance when played back from a recording and does not alternate between samples with every note-on event: It only comes into effect when repetitions are actually played.

MIDI / Macro panel

The **MIDI / Macro** panel of the Settings page provides the following controls:

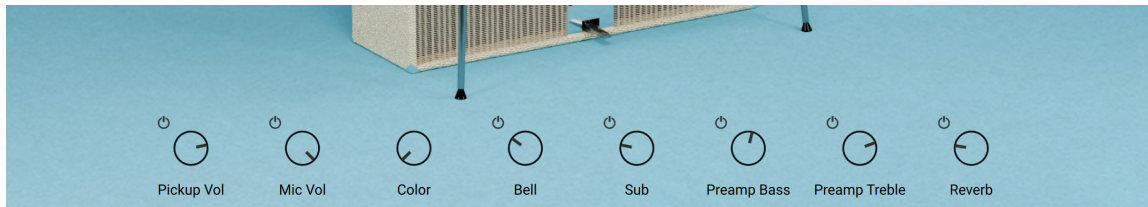


- **Velocity Curve selector:** Selects from a list of velocity curves in order to customize the instrument's velocity response to your keyboard and your way of playing. The graph below the menu illustrates the selected curve: the horizontal axis represents how hard you hit the keys, the vertical axis represents the resulting velocities on the instrument. Electric Keys – Ivory and Jade only: By clicking and dragging the points in the graph you can create custom velocity curves.
- **Pitch Bend Range:** Selects the pitch range available on the Pitchbend wheel, in semitones.
- **Controller controls:** Let you configure MIDI remote control for the [Macros](#).
 - **Target menu:** Selects the Macro 1–8 for which you want to create, modify or remove the MIDI assignment. The closed menu shows the selected Macro. You can click the menu and select another Macro from the list, or click the little left/right arrows to select the previous/next Macro.
 - **Source menu:** Selects the MIDI CC number that you want to use for the Macro displayed in the Target menu on the left. The closed menu shows the selected MIDI CC number. You can click the menu and select another MIDI CC number from the list, or click the little left/right arrows to select the previous/next MIDI CC number. Selecting **Unassigned** (topmost entry, selected by default) removes the MIDI assignment: this is the same as clicking the **Remove** button on the right.
 - **Learn:** Activates or deactivates MIDI Learn: Instead of using the Source menu on the left, you can click **Learn** and quickly select a MIDI CC number by touching/moving the desired control element on your MIDI device. Upon your action, the Source menu on the left is automatically updated to show the new MIDI CC number, and the **Learn** button turns back off.
 - **Remove:** Removes the MIDI assignment for the Macro displayed in the Target menu at the far left. The Source menu on the left automatically switches to **Unassigned**.

 You can also assign MIDI controls to instrument parameters by using MIDI Learn from the [Automation tab](#) in Kontakt's Side Pane.

10. Macros

Macros are shortcuts to parameters from the Instrument and Effect pages. You can have up to eight Macros, which are always visible at the bottom of the instrument. Macros are saved in the instrument presets together with all the other instrument parameters.



Macro basics

Adjusting a Macro knob is the same as adjusting the knob or slider of its target parameter. Macros allow you to gather a set of parameters from different locations in your instruments and have this set always available at the bottom of the instrument window.

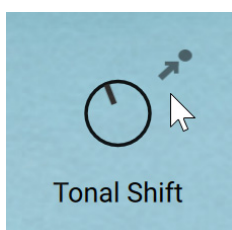


The Macros also make up the Performance view on your Kontrol S-Series MK3 keyboard, providing direct access to the most important parameters.

Depending on their target parameter, Macros can additionally provide a little **On/Off switch** at the top left that activates or deactivates the corresponding feature:



When you hover a Macro with the mouse, a little **Show Target button** appears at the top right showing an arrow pointing to a dot:

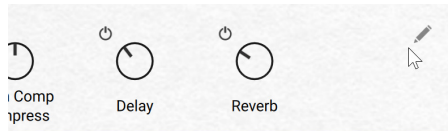


You can click this Show Target button to jump to the page or effect containing the target parameter.

Editing Macros

You can modify the Macros to fit your needs. This is done by switching the Macros to **Macro Edit mode**:

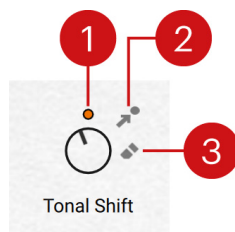
1. Click **INSTRUMENT** or **FX** in the top right corner of the instrument to show the Instrument or Effect page.
2. At the bottom right of the instrument, click the Macro Edit button (showing a pencil) to switch it on and enter Macro Edit mode.



→ The Macros switch to Macro Edit mode:



In Macro Edit mode, each Macro provides the following additional elements:



1. **Color dot:** Each Macro has a dedicated color. When a Macro is assigned to a parameter, the same Color dot appears next to that parameter. If you cannot find it, click the Show Target button to jump to the right location. You can quickly assign or reassign the Macro by clicking its Color dot (it gets highlighted), navigating to the page or effect containing the desired target parameter, and clicking that parameter. Every parameter that can be a target shows a white dot (parameter not assigned) or a color dot (parameter already assigned) next to it as long as the Macro Edit mode is active. For more information on which parameters can be targets for the Macros, refer to [Available target parameters](#).
2. **Show Target button:** Jumps to the page or effect containing the target parameter. This button is also visible by default when you hover the Macro with the mouse. In Macro Edit mode it is always visible to quickly switch between locations as needed.
3. **Remove Macro button:** Removes the assignment for that Macro. When you click the Remove Macro button, the Macro knob disappears along with the Show Target and Remove Macro buttons. Only the Color dot remains, which will later allow you to reassign this Macro.

i Parameters can be assigned to only one Macro at a time: If you assign a Macro to a parameter, any Macro previously assigned to this parameter will be removed.

Available target parameters

The following parameters can be targets for the Macros:

- Instrument page: all continuous parameters, except the four knobs in the mixer details of the Sources section.

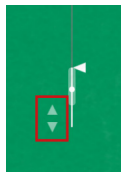
- Effect page:
 - Preamp module: All continuous parameters.
 - Creative effects: Only the **Macro** knob found in every effect can be set as target, however this **Macro** knob can in turn control other parameters of the effect. For more information, refer to [Controlling parameters in creative effects](#).
 - Post-processing effects (Compressor, EQ, Reverb, and Delay): All continuous parameters, except the Output slider in the Compressor and EQ modules.

i For more information on the preamplification, creative, and post-processing effects, refer to [Signal Flow](#).

Controlling parameters in creative effects

Creative effects provide one **Macro** knob dedicated to Macro assignments. It is their only parameter that can be assigned as target of a Macro. In turn, the **Macro** knob can itself modulate other parameters in its effect. In the end, through this two-step process Macros can indeed control one or more parameters in any creative effect.

In a creative effect, any continuous control (slider or knob) that can be assigned to the **Macro** knob will have a modulation icon showing two little up and down arrows nearby:



- To modulate a control using the **Macro** knob, click the modulation icon near the control and drag your mouse vertically. The further you drag your mouse, the stronger the **Macro** knob will affect that parameter value.

You can modulate multiple parameters of the same effect simultaneously and with different modulation strengths.

The **Macro** knob affects the parameter values relatively to their original position, in other words, adjusting the **Macro** knob or the Macro it is assigned to will modulate the parameter value in a range based on its original value. The modulation is bipolar: If you drag the modulation icon upwards, the modulation range will extend above the slider or knob position; if you drag the icon downwards, the modulation range will extend below the slider or knob position.

When a parameter is modulated by the **Macro** knob:

- A small dot shows the current position set by the **Macro** knob.
 - The thicker part of the slider's span or knob's ring indicates the modulation range.
 - To stop modulating a control via the **Macro** knob, [Ctrl]-click (on Windows) or [Cmd]-click (on Mac) the modulation icon near that control.
- The control is released from the modulation and the visual indications of the modulation disappear.

11. Credits

Credits – Jade and Ivory

Produced by: Uli Baronowsky with Stephan Lembke and Achim Reinhardt for Galaxy Instruments and Native Instruments

Product Design: Galaxy Instruments, Tolga Özdemir, Francesco Sabatini, Efflam Le Bivic

Kontakt Development: Achim Reinhardt

NUI Development: Clement Destephen, Lizzie Davis, Till Weinrich

User Interface Design: Efflam Le Bivic, Kate Lindsay

Artwork: Kate Lindsay, Alfredo Maddaluno, Ivana Verze

Product Management: Ilay Bal Arslan

Sample Recording: Stephan Lembke, Leon Roggenkamp

Sample Post Production: Uli Baronowsky, Stephan Lembke, Leon Roggenkamp, Nola Ewoti

Preset Design: Uli Baronowsky, Stephan Lembke, Achim Reinhardt, Jamil Samad

Quality Assurance and Finalization: Elad Twito, Matteo Melchiori

Marketing: Samuel Hora, Andre Bajorat, Ervin Reszler, Lucy Crouch, Alice Lambert, Guillermo Frapolli

Documentation: Nicolas Sidi, Jan Ola Korte

Special Thanks: Konstantin Hess, Ilay Bal Arslan and everybody at NI, Tom Wauch, Marcel Groot, Andre Wedel, Mark Joggerst, Nola Ewoti, Monika and Lillianna Dömer, Annika, Wilma, Pauline and Franka Lembke

Credits – Phoenix and Diamond

Produced by: Uli Baronowsky with Stephan Lembke and Achim Reinhardt for Galaxy Instruments and Native Instruments

Product Design: Galaxy Instruments, Tolga Özdemir, Francesco Sabatini, Efflam Le Bivic

Kontakt Development: Achim Reinhardt

NUI Development: Clement Destephen, Lizzie Davis, Till Weinrich

User Interface Design: Efflam Le Bivic, Kate Lindsay

Artwork: Efflam Le Bivic

Product Management: Konstantin Hess, Ilay Bal Arslan

Instrument Technician: Tom Wauch (EPS Electric-Piano-Service)

Sample Recording: Stephan Lembke

Sample Post Production: Uli Baronowsky, Stephan Lembke, Nola Ewoti, Leon Roggenkamp, Achim Reinhardt

DSP and Preamp Modelling: Frederik Blang, Fabián Esqueda

Preset Design: Uli Baronowsky, Stephan Lembke, Achim Reinhardt, Tommaso De Donatis, Sebastian Müller, Antonio de Spirt

Quality Assurance and Finalization: Elad Twito

Marketing: Samuel Hora, Rose Rutledge, Lucy Crouch, Maik Siemer, Alastair Oloo

Documentation: Nicolas Sidi, Jan Ola Korte

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